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days Eighteen months after the transplantation there was good functional result His second case was successful but was too recent at the time of his report Lever (23) wrote of the present progress in transplantation of the knee-joint He cited a case examined six years after transplantation in which the X ray showed partial absorption and conditions similar to those found in arthritis deformans but in which motion and function were satisfactory The flexion of this joint was not normal there occurred a pseudo-arthritis He stated that all ankylosed joints are not equally suitable for grafting of joints particularly tuberculous arthritis which is apt to cause suppuration

TUBERCULOSIS

In the treatment of tuberculosis of the bones and joints some advance has been made Radiocalcium in tuberculous joints is practically confined to adults Stiles (24) has reported the results of excisions in children His operations were performed on advanced cases and many showed considerable resultant shortening though less than would be expected Probably in this type of case the operative result were as good if not better than if conservative measures had been used Brandes (25) reported 2 excision in children operated on for tuberculosis of the knee of which 14 cases resulted in firm bony ankylosis enabling them to become wage earners O'good (26) reported 25 cases of excision of the knee in a full in 12 nothing was used to hold the bones together and in 12 metal plates or wire were used Convalescence in the latter group was much easier and union took place so quickly that he advised the use of some material to produce union in the ten ankylosis

The question of whether the primary focus is in a tuberculous joint in the bone itself or in the synovial membrane is still under dispute It would seem that either may be the site Ellis (27) stated that the synovium was often the site of the primary lesion Stiles (24) stated that in the majority of cases of tuberculosis of the knee in children the primary site was in the synovium Fraser (28) from Stiles Clinic recently presented evidence that the primary lesion is frequently in the bone in the metaphyseal area

Injection tuberculous joint is a treatment not freely used Murphy (29) states it is in septic excitation Brackett (30) advises the injection of fluid through an incision which permit exploration and removal of tissue for diagnosis with 5 percent iodine if reaction is maintained that the culture must be injected under tension so as to distend the joint and allow the emul-

sion to get into all its folds Fenwick (30) and Cashman (31) advocate the use of tuberculin It is however comparatively little used

The roentgen ray for treating tuberculosis of the bones and joints still has its advocates Iselin (32) and Schede (33) believe that under proper dosage it gives beneficial results Schede (33) states that roughened skin and cold abscesses are contra indications to the use of the X ray There is always danger of irritating the skin and the occurrence of late ulcers This is emphasized by Iselin (32)

Heliotherapy is a treatment which seems to be gaining rapidly in favor Koller (34) of Ley in has for some time been treating cases of tuberculosis of the joints and bones chiefly by direct sunlight at an altitude of 4,000 feet The use of plaster of Paris and apparatus are dispensed with and the patients are kept recumbent with traction to prevent deformities Beginning with a short exposure of about 5 minutes the time is gradually increased to 2 or 3 hours every part of the body with the exception of the head being exposed Austin (35) claims that the efficiency of the sun's rays is much greater at high altitudes Vulpius (36) thinks the altitude not so important as Koller would have it The consensus of opinion however is that these cases are greatly benefited by this method of treatment and no doubt it will be more freely used in the future in orthopedic hospital

A method of treating tuberculosis of the pine has been advanced by Hibbs (37) It does not involve any transplantation of bone but is rather an osteoplastic operation and consists of forming an ankylosis between the pinous processes and the diseased area Also, the laminae are ankylosed thus forming a strong posterior plant of bone By specimen obtained at post mortem Hibbs has shown that ankylosis is attained This gives in their method 13 which the ankylosis is essential in the treatment of tuberculosis of the pine may be secured It has the advantage over the transplantation of bone in the same condition since only one incision is necessary and it is consequently preferred by some although technically it is a little more difficult

Beck (38) has with success till been used for the treatment of tuberculous ankylosis in a certain percentage of cases of distinct benefit in doing many cases The best results seem to be obtained by Beck

SYPHILIS

Syphilis of the joint as recently pointed out by O'Reilly (39) is more common than has been

minority McWilliams (10) concluded that a bone-graft was more apt to live in its new habitat if the periosteum was retained which, after all, is the clinically important question and not whether the periosteum is capable of regenerating bone. Practically no one depends upon the periosteum to fill in bony defects or to repair fractures.

The transplantation of bone has been tried and advocated for many and varied conditions. Its great field of usefulness is to repair fractures and to replace defects in bone. Albee (11) and Murphy (12) have both been prominent in bringing forward this work and have greatly aided in its technique. In the treatment of fractures the transplantation of bone may be said to be confined to the cases of delayed union. The metal plates so strongly advocated by Lane (13) should be used chiefly in recent fractures. Before the transplantation of bone was introduced the metal plates were used in cases of delayed union and in many instances were not successful but in the transplantation of bone we have a procedure which will bring about union in practically all cases. There are two ways of using bone-grafts—the intramedullary and the inlay method. In the former the medullary cavity is reamed out and the graft inserted according to the method described by Murphy (12). In the latter a trough is made for the piece to be transplanted and the graft is laid in the trough thus securing an anatomical approximation of periosteum to periosteum, cortex to cortex and intramedullary lining to intramedullary lining. This method which has been described by Buchanan (14), Albee (15) and the writer (16) brings under the control of the surgeon a heretofore most discouraging group of cases. The bone-graft may further be employed for tuberculosis of the spine, as a wedge in the scaphoid in club-foot (17) and as a means of stiffening tuberculous knees (18). Its use as advocated by Albee (11) to bring about fixation of the spine in tuberculosis has been tried quite extensively and has been enthusiastically championed. Albee and others have shown by post mortem specimens that the bone-graft becomes attached firmly to the spinous processes, which would seem just grounds for expecting much good from this spinal operation.

Extensive resection of bone may be made for malignancy and the gap filled in with a bone transplant. The tibia can furnish large pieces of bone and if necessary practically the entire fibula may be used.

Some surgeons add to the use of bone transplant in the spine as recommended in tuberculosis for the treatment of scoliosis, particularly in cases

following infantile paralysis. The spine should be straightened by plaster of Paris jackets, etc. as much as possible, the graft placed and the patient maintained in the corrected position until the graft firmly unites. Thus far this method has been only recommended. No series of cases has been reported.

SCOLIOSIS

Largely through the work of Abbott (19) the treatment of scoliosis has received great impetus. Abbott's results were so much better than those obtained by older methods of treating cases in the erect or extended position that men immediately began to visit his clinic. He has experimentally produced and corrected scoliosis in a normal individual. He believes it to be a flexion deformity often induced by the faulty position of the child at the desk. By twisting and by flexion back through the same path he claims to accomplish more than in any other way and reports cures. The whole question of scoliosis has thus been reopened and widely discussed.

Schanz (20) pointed out that the majority of the scolioses seen in the process of development were not of the severe or malignant type and many improve or remain stationary. He emphasized the seriousness of the malignant type from an economical standpoint and doubted that the school desk was a very prominent etiological factor in the production of lateral curvature. He stated that all real scolioses came from a disturbance of the static load on the spinal column. Lovett (21) emphasized the divergence of opinion concerning scoliosis and its treatment stating that the term was too loosely applied and that the functional and organic types should be sharply differentiated. He spoke favorably of the Abbott method and believed that it had on the whole distinct anatomical advantages and offered the greatest ease of correction.

Forbes (22) has called attention to the so-called rotation treatment. He fixes the spine and rotates the patient by means of the arms. In basic principles the method seems to be very similar to Abbott's.

TRANSPLANTATION OF JOINTS

The transplantation of entire joints has been successfully performed in a few instances. The difficulty of obtaining suitable material for transplantation and the uncertainty of the result has deterred many surgeons from attempting it. Tuffier has twice transplanted the elbow joint. In one instance the joint was obtained from a fresh cadaver and held in cold storage for five

mortality of 25 per cent has been reported by Patterson (49). The prophylactic measures used have not seemed very effective. Rosenau (50) reviewed the Massachusetts State Board of Health Report which points to the stable fly as the principal carrier. Sawyer and Herms (51) transmitted the disease by this fly from monkey to monkey in seven cases. Neustaeder (52) reported the disease contracted by two guinea pigs though not by direct inoculation. The guinea pigs were living in a cage directly beneath a monkey which had poliomyelitis with a nasal discharge and typical paralysis. As pointed out by the editors of the Fourth Report in Orthopedic Surgery (53) this is particularly interesting for all the previous infections of animals have been by direct inoculation never by contact infection. Flevner and Noguchi (54) have succeeded in growing globoid bodies with which they have produced typical paralysis in monkeys.

The transplantation of tendons in cases of infantile paralysis has been advocated for some time. Too much was expected of the procedure and many were disappointed in the results because they did not take into consideration that a tendon in which the muscle is weakened is often transplanted and that it is being placed in its new bed at a mechanical disadvantage. However the transplanted tendons generally have sufficient strength to assist in establishing stability. Those in the leg and foot have generally been more satisfactory than those in the arm and hand where the movements are more delicate and intricate. Wherever possible the bony or periosteal implantation of the tendon as recommended by Drobnik (55) and Lange (56) is insisted upon by many. Vulpius (57) on the other hand believed that for general use the union of tendon to tendon was the best method. All writers of experience warn against tendon transplantation before orthodox orthopedic treatment has been carried out to prove that the muscles called paralyzed really are hopelessly useless. The wearing of apparatus to remove all tension on paralyzed muscles and thus allow return of function should be insisted upon. The social status of the patient in many cases determines as to whether or not an arthrodesis is preferable to tendon transplantation. Lewis and Davis (58) have reported cases of free transplantation of sacri to replace tendon which suggest that it might be used to elongate tendon too short for transplantation. Callie (59) has had good results in retaining paralyzed feet in position by cutting the paralyzed tendon and fastening the distal end to the tibia or fibula.

Vollmann (60) in 1870 said: "No one has yet succeeded in restoring the continuity of the path from the nerve center to the motor apparatus nor is it likely that this ever will be accomplished." Vulpius (57) says that the impossible is to-day within measurable distance of attainment and nerve-transplantation has passed beyond the stage of interesting experiment. Stoffel (61) of the Heidelberg Clinic has undertaken to work out the anatomical structure of certain of the nerves so that the surgeon may definitely know where the fibers to certain muscles are to be located. Vulpius (57) in his work takes up the individual nerves and describes them. The operation has not been generally adopted probably due largely to the difficulties of accurately isolating the fibers and the extremely definite anatomical knowledge necessary. On the whole the results have not been as satisfactory as those of tendon transplantation.

SPASTIC PARALYSIS

In the treatment of spastic paralysis Foerster's (62) operation of resection of the posterior nerve roots has attracted wide attention. Technically it is a somewhat difficult procedure and requires definite anatomical acquaintance with the region. Foerster gave the mortality as 85 per cent. He emphasized that the operation should not be used indiscriminately that only severe cases where all the muscles of the extremity were more or less involved should be operated on and that many of the mild cases where one group of muscles was mainly at fault should be treated conservatively by tenotomies, training, etc. Epilepsy contra-indicates the procedure. Werdnorf (63) advised that the deformities and contractures be eliminated as much as possible before the operation was undertaken. In many cases this will be sufficient. Jones (64) stated that this operation had a limited field and reported excellent results from division of the adductors and the maintenance of abduction to be followed by educational method. Griggle and Guembel (65) were not enthusiastic over the operation.

SARCOMA

In the management of sarcoma the present tendency is toward conservatism for the results of amputation in the malignant sarcoma have been unsatisfactory while the results of conservative treatment have been practically as good. Bloodgood (66) was probably the first to take the definite stand that giant-cell sarcoma should be treated conservatively for though pathologically they might be considered malignant as far as the

thought. The Wassermann test should be freely used and the parents should be examined also when the test is negative in the patient. No definite connection between rickets and syphilis has been demonstrated although many observers incline to this view.

CHRONIC INFECTIOUS ARTHRITIS

The group of stubborn arthritides called variously rheumatoid arthritis, osteo-arthritis, chronic infectious arthritis, etc. are under better control than heretofore. Rosenow's work in bacteriology has aided us considerably in their treatment. A connection between gonorrhea and rheumatism has long been recognized clinically. Rosenow (40) has shown that the streptococcus viridans and haemolyticus may be isolated in some of these cases in the tonsils in the joints themselves, or in the glands draining the joint. His removal of the tonsils a considerable number of cases of this group clear up. A vaccine made from the tonsillar crypt secretion or the joint fluid or the glands about the joint has given good results. A certain number of cases in this group may be cured by these means. Lane (41) claims that intestinal stasis is responsible for many arthritic conditions and reports favorable results following removal of the colon or short circuiting the caecum to the sigmoid. This radical procedure has not been generally adopted but the observation of Lane's patients under treatment must impress one with the fact that they are greatly improved radical though the treatment may seem.

Treating these arthritic cases with the glands of internal secretion has accomplished very little. A primary focus in the genito-urinary tract may be the site of the chronic infection and local treatment often helps the joint condition.

ARTHROPLASTY

For many years an ankylosed joint usually the result of acute infection and sometimes of tuberculosis has been the most that could be given the patient. Manipulation under anesthesia was usually a failure. The elbow joint was the one exception, resections being done on the elbow with excellent results. Of late years Murphy (42) has steadily operated on cases of ankylosis of the knee, hip, elbow, etc. in many instances with astonishing success. Not all cases in other hands have been successful but here and there a good result has spurred men on to increased efforts. Baer (43) has also been working on these cases using chromicized pig's bladder to interpose between the raw surfaces, where Mur-

phy uses flaps of tissue obtained from the operative field or elsewhere on the same individual, e.g. the fascia lata of the thigh. These operations for mobilizing joint have not been generally undertaken and are still *sub judice* in the mind of most operators. Better however than performing arthroplasty is the prevention of ankylosis. Murphy mentions the injection of formalin in glycerin and the maintenance of extension to prevent the deformities so often seen in these cases. Many of the joints, if still in the proper position are so useful that patients do not deem it necessary to submit themselves to an operation.

FRACTURES

The treatment of fractures while not relegated to the orthopedic surgeon for many reasons still fall naturally into his hands. His knowledge of the deformities which frequently follow a bad fracture particularly those in or near a joint causes him to treat all of them as potential deformities (Jones 44). The treatment of recent fractures is generally divided into operative or non-operative. There is an abundance of literature on the subject and the general trend is to treat conservatively those cases that may be reduced and held so as to insure a good functional result. The operative treatment is used in cases that cannot be held in any other way. The use of the bone-graft greatly aids the treatment of non-union. A report of the Committee on Fractures (British Medical Association 45) is very valuable and as concise as could be expected when the cases were gathered from many surgeons. The committee reported that the non-operative treatment in children gave almost as good result as the operative treatment. After childhood better results were obtained by the operative method though the group of cases reported was small. Later operation for deformities following the non-operative treatment do not give nearly as satisfactory results as early operation for the same bad type of fractures. Sampson (46) using his careful technique in 47 cases of fractures in children was able to procure 97 per cent perfect functional results and 83 per cent anatomically perfect functional results. Success has been reported in the intracapsular treatment of fracture of the neck of the femur by the abduct method of Whitman (47). The longitudinal and lateral traction of Ruth and Maxwell has also been used effectively (48).

INFANTILE PARALYSIS

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RADIUM AND MESOTHORIUM IN UTERINE CANCER

By HENRY SCHMITZ, A.M. M.D. CHICAGO

IN 1879 Sir W. Crookes discovered the cathode rays. He exhausted the air of a glass tube more completely than had ever been done before bringing down the pressure of the contained air to about one-millionth of an atmosphere practically a vacuum. He then forced a current of electricity through the tube and made the discovery that the current was transmitted through the tube as a shower of extremely minute particles which starting from the negative pole or cathode traveled in straight lines and caused a beautiful fluorescent glow on the glass walls facing them. Crookes called these flying electrified particles the cathode stream. We now know that these tiny particles are electrons.

In Germany in 1895 Professor Röntgen made the memorable discovery of the X rays. He found if the cathode stream be projected on to a solid body within a Crookes tube a vibration of great frequency is produced in this body giving rise to a radiation which is known as the X rays. The extraordinary properties of the X rays and their evident connection with the fluorescence of the glass of the X ray tube led experimenters to study other phosphorescent bodies for the same type of radiation. In 1896 while studying the fluorescence of uranium, Henri Becquerel discovered radio-activity. In 1898, Schmidt found that thorium and its compounds were radio-active and in 1900 DeLorme found that actinium was also radio-active. But the most important discoveries were made by the Curies in 1898 when they obtained radium from pitchblende the substance being two million times more active than uranium. In 1907 Hahn discovered mesothorium. Radiotreatment experienced thereby an added stimulus as the substitution of mesothorium for the rare and expensive mineral radium was made possible. Radio-activity is an atomic property observed in a few substances. Its elements liberate an energy which is characterized by the production of corpuscular and ethereal rays, heat, light and electricity. The discharge of this energy is an essential property of the atom of the substance and results spontaneously without extraneous cause.

At present thirty radio-active elements are known. Three of these are gaseous: radium emanation, thorium emanation and actinium

emanation. The others are solid bodies. The most important are those possessing the highest atomic weights: radium, 226.5; thorium, 232; and uranium, 239.

The radio elements are divided into two large groups or families—uranium and thorium. The radio-active substances are found in nature in very minute quantities in the mineral deposits in which they and uranium are contained. These are chiefly pitchblende and carnotite for radium and monazite for thorium. Radium is the only markedly radio-active element which has been obtained in its pure state.

Unchangeable radio-active elements do not exist as each element undergoes in the course of time more or less rapid disintegration or decay. The elements of one family are related in the sense that one group by the discharge of radio-active energy is transformed into the other. The result of this transformation is that elements of an always lower and lower electropositive character are formed. (See Table I.)

The radio-active energy consists of a radiation consisting of three distinct kinds of rays which have been called by Rutherford α -, β - and γ rays. By the discharge of α -rays radium is gradually formed from uranium in the course of some thousands of years. Radium emanation is formed from radium by a continuous giving off of particles and from this radium A, B, C, D, E and finally F is derived. The more rapidly the transformation results, the greater is the penetrating power of the discharged particles and the greater the velocity of the β ray. The emission of the α - and β rays is coincident with a spontaneous liberation of electricity.

The duration of the life of the radio-elements varies from a few seconds to millions of years. By the half period of radio-activity of a radio-element is meant the time required for the radio-activity to decrease to half value.

The rays are positive corpuscular rays or helium atoms with a positive charge. The discharge of each helium atom signifies a loss of atomic weight by the parent atom of four which is the atomic weight of helium. This knowledge enables us to calculate the ultimate results of this disintegration—for instance in radium. In the course of time a radium atom gives off α rays—that is, helium atoms in other words.

the atomic weight of radium which is 226.5 is decreased by 5×4 or 20 in this transformation and we obtain as the end product of radium a body whose atomic weight is 226.5 - 20 or 206.5. The atomic weight of lead is 206.9. This simple arithmetical example shows that the precious radium is finally transformed into lead. A similar calculation demonstrates that thorium is finally converted into bismuth.

The β - or Becquerel rays are negative corpuscular rays viz electrons. They are cathode rays existing in a natural state and are analogous to the rays which emanate from a cathode *in vacuo* and which on striking a solid body produce as secondary rays the λ rays. The β rays are distinguished from the cathode rays appearing in cathode by the fact that they have a third greater velocity and therefore a larger penetrating power. The β rays of one and the same substance do not possess the same velocity but possess different velocity groups which however are characteristic of the substance. The degree of velocity determines the penetrating power of the rays. The γ -rays possess a considerably greater penetrating action than the X rays; they never occur alone but always in the company of the β rays. The penetrating power of the γ rays is about one hundred times greater than that of the hardest β rays. It is impossible to take clear radiographs with the γ -rays as they are absorbed very little more by the osseous than by the soft tissues. The penetrating power of the γ -rays of the different radio-active substances varies. The γ rays as well as the β -rays, produce secondary rays on striking a solid body.

An emanation is the direct product of decay of a radio-active element. A radio-active atom decomposes by the expulsion of an α -particle i.e. a helium atom into an atom of radium emanation. It is a gas which emits α rays and forms again into a solid body.

The amount of radium emanation in equilibrium with 1 gm radium element is designated one curie. The volume of this amount of emanation is 0.6 cmm. The 1/1000 part of one curie is one millicurie. The content of radium emanation in different solutions is designated as macheunits, referable to one liter of the dilution. One curie emanation equals 2670 million macheunits; this means that prung water of 267 million macheunits activity contains in one liter the emanation which equals the weight of one milligram of radium.

The velocity, intensity and penetrating power of the rays are of importance therapeutically.

The velocity of the α rays is only one tenth to one-twentieth of that of light. The velocity decreases rapidly with the distance from the source and when the value of the velocity has sunk beneath a certain amount the α rays lose certain properties which were present at the outset. This function of distance is known as intensity. The ray loses for example its photographic action, its fluorescence and finally its ability to ionize gases i.e. to make them conductors for the electric current when the latter passes through them. As the α rays are atoms and possess a considerable size they penetrate material bodies only with great difficulty. For instance heavy glass or a thin metal plate are almost impenetrable to them. If α rays act directly on the skin they are absorbed in the most superficial layers and do not advance to any greater depths. During their absorption they are probably capable of producing secondary rays corresponding in this respect to the β rays.

The behavior of the β rays is entirely different. Their velocity is about the same as that of light; their intensity and penetrating power are markedly greater. The two kinds of β rays known as hard and soft rays are of different penetrating powers. A piece of lead 3 mm thick will absorb the β rays. They are not only absorbed but also produce secondary rays which closely resemble the β rays but have a very much reduced power of penetration.

The γ rays pass through a lead plate 1 cm thick. In fact the γ rays emitted by 30 mg of radium bromide are capable of penetrating a steel plate 30 cm thick.

When solid bodies, especially metals, are penetrated by rays from radio-active bodies a new kind of ray is formed which is analogous to the secondary X rays which were discovered by Sagnac. λ rays are not capable of producing secondary rays β rays, on the contrary produce very active secondary rays which are at times more powerful than the producing β rays. The secondary rays are β rays but of a lesser velocity than their producers. They represent new electrons resulting from the absorption of the electrons which formed the primary rays. The λ rays also produce powerful secondary rays which are identical with β rays.

The secondary rays produced by the same primary rays are more intensive; the denser the attacked metal. Eve and Townsend obtained the following numbers of the relative intensity of the secondary rays for different substances produced by β - and γ rays: γ rays and λ rays.

Substance	β and γ rays	γ -rays	X rays
Lead	no	no	no
Copper	28	6	97
Iron	28	20	93
Zinc	27	20	81
Aluminum	30	20	5
Glass	3	25	1
Paraffin			

TABLE I

	H. H. Time Period	Variety of Rays	Intensity of Rays in Air
Uranium	3 10 ¹⁰ years	All the beta and gamma.	1 cm.
Uranium in X ₂ (Uranium)	(1 hour)	Beta and gamma	
Uranium X ₂	5 min. 100	Beta and gamma	
Uranium	About 200 000 000 years	Alpha	3 cm.
Ionium	2 years	Alpha	3 cm.
Radium	1600 years	Alpha and beta	3.5 cm.
Radium mesothorium	1600 years	Alpha	cm.
Radium A	4 1/2 days	Alpha	3.5 cm.
Radium B	4 1/2 hours	Beta and gamma	
Radium C	16 1/2 minutes	Beta	
Radium C ₁	9 1/2 minutes	Alpha beta gamma	7.06 cm.
(Radium C ₂)	(minutes)	(Beta)	
Radium D	6 1/2 years	Very soft beta and gamma	
Radium E	13 days	Beta	
Radium F or Radium G	6 days	Alpha	36 cm.
Lead?			

Radium is the most important and the best known radio-active element. It is derived from ionium a product of decay of uranium and therefore occurs in all mineral deposits containing uranium. It belongs to the group of alkaline earths analogous to barium with which it was first separated from pitchblende by Madame Curie. The atomic weight of radium is 226.5; the atomic weight of uranium is 238. If we subtract from the latter the rays or helium atoms of which many are given off from uranium, and ionium the atomic weight of radium is obtained $238 - 3 \times 4 = 226$.

TABLE II THORIUM

	Half Value Period	Variety of Ray	Intensity of Rays in Air
Thorium	1 10 ¹⁰ years	Alpha	cm.
Mesothorium I	5 1/2 years	Beta and gamma	1 cm.
Mesothorium II	5 1/2 hours	Alpha	7 cm.
Radithorium	23 days	Alpha and beta	1.5 cm.
Thorium X	53 seconds	Alpha	
Thorium A	0.4 seconds	Beta and gamma	
Thorium B	10 1/2 hours	Alpha and beta	1.5 and 6 cm.
Thorium C (Th + C)	60 1/2 minutes	Beta and gamma	
Thorium D	3 hours	Beta and gamma	

Thorium, the beginning member of the second family of radio-active elements, belongs to the

rare earths has an atomic weight of 232.4, and decreases to one-half its weight within 1,000 millions of years by the emission of α rays. It is obtained from monazite found in Brazil. The immediate product of decay is mesothorium with which we charge both mesothorium I and mesothorium II. The half value period of mesothorium I is 5.5 years, that of mesothorium II 6.2 hours. Mesothorium I equals mesothorium II within a few days after its production.

Mesothorium I in its chemical behavior is identical with radium and is therefore obtained by a similar process. One thousand kg of monazite give 2 to 2.5 mg mesothorium bromide while from 1,000 kg pitchblende about 2 cg radium bromide are obtained. Mesothorium always contains radium which cannot be separated from the mesothorium. The percentage of radium in the combination is 25. The radio-activity of mesothorium increases at first but within 3 years it reaches its maximum it then decreases slowly and in about 10 years it reaches its half value period. The presence of radium however decreases the time of decay of radio-activity so that 16 to 18 years pass by before the value of the radio-activity is one-half what it was at the time of the production of the mesothorium. Finally if all the mesothorium should decay the 25 per cent of radium would remain.

The radio-activity and thereby the amount of radio-active substances is determined by measuring the ionization which their rays produce. The electroscopic method is the simplest. The time which is necessary to produce a definite reduction in deflection can scarcely be measured the stronger the rays are the stronger must be the ionization and the more rapid the results of the discharge of the electroscope. The intensity of the radio-activity is under the same conditions inverse to the time of discharge. The electroscope must be constructed differently according to whether one desires to measure α , β or γ -rays. γ ray electroscopes must have walls of at least 3 mm thickness of lead to positively exclude all β rays. The standard of comparison is a known radium standard. All the important radio-active substances are measured according to known radium standards. This means that if the amount of mesothorium is 1 mg the γ -rays of this mesothorium preparation produce the same ionization as 1 mg radium bromide provided the conditions of the experiments are the same.

The rays have slight penetrating power and are absorbed at the surface of the body. The β rays, representing free electrons and consisting of hard and soft rays, penetrate about 7 mm into

the tissues before they are completely absorbed. The γ rays have the greatest penetrating power. Their coefficient of absorption by all substances is about 100 times less than that of the β rays. The γ rays also produce in the tissues in which they become absorbed secondary rays mostly resembling the soft β rays.

The biologic action of the different rays has been admirably studied and described by H. Dominici (8) of Paris whose paper is herewith reviewed.

The application of 1 cg. of pure radium sulphate in a slit applicator of 4 sq. cm. to the skin of a healthy animal will produce within three weeks three varieties of changes distributed to three different zones of the body as follows:

1. A necrosis in the epidermis and cutis the zone in which the greater part of the rays is absorbed that is all of the α and soft β rays.

2. An intense proliferation and retrogression to the embryonal state of the cells in the subcutaneous tissues and fascia. This zone has absorbed a smaller quantity of the rays than the preceding one, i.e. the medium β -rays.

3. Metabolic changes in the aponeuroses, muscles and even the osseous tissues. The ultrapenetrating γ and β rays become absorbed in this zone.

Five or six weeks after the application of the radium the epidermis and cutis resume their former state while the other tissues do not return to normal for six to eight months.

This simple experiment shows—

1. The variety of the biologic action of the rays: necrosis, excitation of proliferation, embryonal retrogression, metabolic changes.

2. The connection which exists between the nature, intensity and extent of the disturbances produced in the surface integument and the quantity of the rays absorbed by the skin in a given space of time, but it does not prove that these changes absolutely correspond to the absorption or amount of the rays. The susceptibility of organic tissues to change by the rays and the liability of animal and plants succumbing to the action of infectious agents is termed the receptivity or sensitization of cells.

This receptivity of organic tissues toward the rays depends under normal conditions, at least in part on their age which must be determined from their momentary phase of development as well as from the time of their formation in the organism to which they belong.

Therefore cell elements which are in an embryonal or indifferent state—basal cell of the epithelium and the hair follicles, lymphoid cells,

embryonal sex cells—are destroyed by an application of radium which would excite only a simple reaction or metabolic changes in the surrounding mature tissues. Thus cells of the hair papillae, lymphoid cells, spermatozoa and graafian follicles are killed by the rays while the surrounding cell remains intact.

The receptivity of cells however depends not only on their age but on their species and the varieties of the latter in the same organism and on the accidental changes of a pathologic nature.

According to Danisz the differentiated elements of connective tissue are much less influenced by the ray than the adult cells of another species, for instance those of the skin and mucous membrane. This difference in the behavior of the cells toward the rays is also found in their embryonal state although their undifferentiated condition might imply the same receptivity.

The young cells of the basal layer of the epidermis perish much less readily than those of the papillae of the hair follicles; they are different varieties of the same species.

Homologous elements are more or less receptive depending on the age of the organism to which the cell elements belong. The tissues of the child are much more easily altered than the corresponding structures of the adult.

The influence of age and species or variety of species is further observable if the sensibility toward the rays is concerned with tissues pathologically changed by tumor formations or in inflammatory processes unless these pathologic processes change the receptivity of the cells, as they may alter their morphologic development and their nutrition.

Depending on their age the following neoplasms belong to these radiosensitive tumors: ectodermal and basal-celled epitheliomata of Darier and Krompecher, the morphologic structures of which resemble the basal layers of the epidermis; lymphadenomata derived from embryonal lymph cells which remain embryonal sarcomata which ordinarily proliferate from adult fixed connective-tissue cells (the latter reverting to their embryonal form after they have resorbed their products, i.e. connective-tissue fibrillae and cartilaginous and osseous tissues); fibromata whose fibroblasts are present in very large numbers and remain in their young state instead of changing into adult fibroblasts and producing connective-tissue fibers.

On the other hand squamous-celled epitheliomata, the cells of which grow with the formation of epithelial cones; fibrosarcomata, chondrosarcomata, osteosarcomata, the cells of which

attain a relative maturity with the formation of fibers cartilaginous and osseous substances and fibromata with atrophic fibroblasts which are found dispersed in small numbers in the extensive fibrous masses remain refractory to the rays.

The law of age is apparently contradicted by certain tumors in which the embryonal cells are just as refractory as the adult cells, or in which the adult cells are just as sensitive as the embryonal elements. An example of the first instance is the tuberous nevus the retrogression of which is with difficulty attained in spite of radium and roentgen rays. The resistance toward radium is not only shown by the highest differentiated cells but also by those least developed which are refractory toward a ray otherwise capable of destroying embryonal cells. An example of the second category is represented by horny epitheliomata, fibrosarcomata, chondrosarcomata and osteosarcomata the receptivity of these being greater than that of most of the remaining tumors of the same varieties.

To conclude the two great factors in the receptivity of tissues—age and origin—receive consideration in the development of the tumors but their influence is often changed, diminished or reversed by neoplastic processes which change the cells in such a manner that the latter conduct themselves as if they belonged to another species or variety.

Inflammatory processes also modify the receptivity of the tissues, for they destroy their growth and change their structure thereby distorting the specific character of the tissues.

The resistance of the skin toward the destructive action of the rays is increased by many chronic inflammatory conditions, but it must be remembered that the relative immunization of the tissues against the necrotic action of the rays may be coincident with a sensitization of their stimulating evolutive and metabolic properties.

Therapeutic raying irritates but does not destroy the young granulating cells of torpid badly cicatrizing wounds. It heals superficial or deep inflammatory processes, paring the overlying skin. It atrophies keloids of the body surface conserving the epidermis laying over them for this reason the cure of most of the inflammatory conditions which are amenable to radium treatment requires without exception a dose of rays which produces marked caustic effects.

Radium treatment is indicated in scrofuloderma but contra-indicated in most inflammatory lesions, in which weak rays that could kill neither the organic element nor the pathologic

bacterium produce a retrogression and a cicatrization. The radium acts by changing the conditions of the affected area so that the latter becomes ill adapted as a nutritive media for the growth of pathogenic germs. This modification consists in a renovation of the chemical composition of the cells and the intracellular stroma.

The action of the rays on neoplastic tissue is of an unimpeding destructive or evolutionary character.

The rays impede the growth of the diseased cells before they destroy them so that the cessation of the growth of the tumor cells always precedes the absorption of the tumor elements.

The destruction of these elements is either a direct or an indirect one. In the direct form the tumor cells become necrotic their cytoplasm and nucleus disintegrate and dissolve without any change occurring in their morphologic structure. In the indirect form a metamorphosis which is comparable to that produced by the roentgen rays, precedes the cell absorption. The metamorphosis consists of a hypertrophy often a gigantism of the nucleus nucleolus and even the centrosomes which increase like pseudoparasites. The metamorphosis of tumor cells is the sign of an abnormal development which the rays force upon them and which shortens the duration of their life for very soon death of cells and absorption occur.

The evolutionary action of the radium produces a still more important process. It causes a retrogression of a part of the cells of the malignant tumors to their normal adult state. To understand the possibility of such a process we must have a clear conception of the mechanism of the formation and growth of cancer-cell. The neoplasm deprives the cells of their function especially that of becoming a part of the normal tissue layers. They become strangers to themselves and to the cells belonging to the same species and varieties. The growth is not only the result of the proliferation of a single cell group but other cells also take part in the proliferation which cells in the beginning were spared and which have gradually become included in the cancerous tumor.

The rays are capable of producing an effect directly opposite to the neoplastic process i.e. they destroy the cells or inhibit their growth but also return to them their prior normal function.

The therapeutic action of radium depends on the amount of radium used the duration of exposure and the kind and thickness of the filter. Radium rays destroy tumor cells either directly or indirectly as mentioned before but

finally the rays remove the tumor. However we must make one presupposition: the rays really must reach the tumor with a sufficient intensity and the tumor must not have become disseminated by metastatic formations through distant parts of the body. Some cancers can be cured by a variety of methods, others not at all. The removal of the tumor does not mean the cure of the cancer, because the cure of a cancer signifies the death of all, absolutely all cancerous foci and cells present in the body. Therefore we must sharply distinguish between an anatomic and a clinical cure. In an anatomic cure a recurrence is impossible because all the cancer cells become destroyed if metastases are not present in the abdominal organs, ovaries, liver, etc. In a clinical cure the cancer has been improved only so far that clinically we cannot demonstrate anywhere the primary tumor and its metastases.

By the use of a correct filter technique the action of radium on tissues may be controlled so that either α , β or γ rays or a combination of them may attack the diseased area as the action of α and β -rays is only superficial; they may be dispensed with and only the deep penetrating hard β - and γ rays used. For instance, a layer of cardboard will arrest the α rays while a pure lead filter of 3 mm thickness will absorb all of the α rays and the soft and medium β rays. In gynecological work we do not use the α and soft β rays at all and therefore always use a lead filter of 2 or 3 mm thickness. The secondary rays which form in the filter are best absorbed by surrounding the metal filter with a cover of pure elastic rubber. Other substances which may be used as filters are gold, silver, platinum and brass—0.6 to 0.8 mm gold or 0.5 mm platinum or 2 to 3 mm silver or 1 to 1.5 mm brass corresponding to 2 to 3 mm lead.

The dosage of radium is very important. A dense heavy stream of rays emanating from radium or mesothorium contained in the smallest possible compact mass has a much more intensive action than the same amount of radium or mesothorium distributed over a large area.

Further, an entirely different result will be obtained from a large amount of radio-active substance applied at intervals for short periods of time than with a small amount of radium applied correspondingly longer time. In other words, the action of 50 mg of radium element for 100 hours (i.e. 5,000 milligram hours) is entirely different and more intense than the action of 5 milligrams of radium element for 1,000 hours. The same result cannot be obtained with a small

amount by a longer continued exposure than can be obtained with a large amount within a correspondingly shorter period of time. Small doses stimulate growth and cause hypertrophy of tissues while necrosis and death of cells can only result from the use of large doses. This fact is of practical importance. We stimulate the proliferation of a cancer and thereby render the patient worse by the use of small amounts of radio-active substances. However, a necrotization of the tumor and thereby a curative action is obtained only by the application of large amounts of rays. These facts correspond to those obtained by the use of the X rays. Soft rays in small amounts stimulate the cancer to rapid proliferation while a large amount of hard penetrating filtered rays applied within the shortest possible length of time have the opposite effect: that is inhibition of growth and death of the cell. Foveau de Courmelles (9) uses 10 to 50 mg of pure radium in monthly applications of 6 to 24 hours. Doderlein (16) precedes the treatment by an excoelation of the neoplasm and then applies 100 to 150 or 200 mg mesothorium until from 3,000 to 6,000 milligram hours, and even 36,600 are used. He uses gold and lead filters. Jung (5) uses 100 mg mesothorium in 2 mm lead filters. With 30 to 36 mg mesothorium Kroemer (4) succeeded in changing the cancer tissue into a connective scar tissue free of any cancer cells. Kronig uses up to 800 mg mesothorium with heavy filters. He considers 200 mg the minimum amount for a successful raying. Nahmmacher (30) obtained good and rapid results from the use of 30 to 100 mg of radium. Pinch uses 50 to 100 mg of radium filtered through a 2 mm lead and a 3 mm rubber filter. Each séance lasts 30 to 60 hours given within 5 to 10 days. The applications are repeated every six weeks. Schauta claims that amounts above 100 mg radium or mesothorium should not be used on account of the danger of latent formation of vesicovaginal or rectovaginal fistula. Sticker (3) uses amounts of 500 mg or more. Smaller amounts do not penetrate sufficiently deep. He claims that mesothorium does not penetrate as deeply as radium. Wickham (33) has 19 centigrams of radium at his disposal and claims good result from about 2,000 milligram hours application of the radio-active substance being strongly filtered.

It is almost a settled fact that less than 50 milligrams of radium element or mesothorium of the same activity should not be used in gynecological work. It is deplorable that the different authors do not make it clear in their papers

whether they mean to indicate the amounts used as being radium element or its salts. Ten mg of radium element represent 17 076 mg of Ra Br or 13 138 mg Ra Cl or 14 2 m of Ra SO₄ or 12 655 mg Ra CO₃ in other words 17 076 mg Ra Br or 13 138 mg Ra Cl or 14 2 mg Ra SO₄ have the same radio activity as 10 mg of radium element.

A qualitative difference in the clinical action of X rays radium or mesothorium ray does not exist essentially. They have the same curative action if used in the same amounts. The X rays are far superior to the X rays in the intensity of penetrating action. This intensity is about 40 times stronger than that of the hardest X rays. Clinical results coincide with this fact. The lesser intensity of the röntgen rays likewise cannot be overcome by an increased duration of their application.

The histologic changes which occur in the cancer tissue under the influence of the rays are as follows. During the first three weeks a hyperaemia and numerous typical and still more pronounced atypical mitoses are found. Then follows the metamorphosis characterized by an enlargement and vacuolization of the cancer-cells retardation and finally cessation of the division of the cell nucleus then destruction of the nucleus and cell protoplasm and finally destruction of the cells. There is a simultaneous new formation and increase of the connective tissue succeeded by a sclerosis and hyaline degeneration of the fibrille. On macroscopical examination of a piece of tissue a narrow zone of necrotic tissue is seen on the surface beneath this a layer of granulation tissue and degenerating cancer-cells while in the deeper tissues areas of apparently normal and degenerated cancer cells are seen. Whether these cells are capable of proliferation or are destined to perish cannot be proven on the microscopic examination. The destroyed cancer tissue is replaced by granulating or sclerotic hyaline degenerated connective tissue. The musculature atrophies and disappears almost entirely. The blood vessels show a hyaline degeneration of the adventitia and media. An obliteration of most of the blood vessels is caused by a proliferation of the intima. The changes in the blood vessels are considered by most authors as of great importance on account of the sudden disturbance of the nutrition of the tissues.

The changes in the objective condition of the patient caused by the use of radium or mesothorium are (1) a restitution of the uterus to its former normal shape and form (2) a disappearance

of the infiltration in the parametria and (3) a recurrence of the former normal movability of the uterus. In fact an inoperable cancer is made operable within about 3 to 4 weeks by the use of 3,000 to 4,000 milligram hours of radium or mesothorium.

The changes in the subjective condition of the patient correspond to the local action of radium. They are cessation of hæmorrhages and putrid discharges, disappearance of pain, improvement in the general condition of the patient and disappearance of the cachexia.

The primary action of radium in this disease is really beyond the fondest hopes of its most ardent supporters. By its use many sufferers may be given a new lease on life. This fact probably has led many a gynecologist to prematurely pronounce the radio-active treatment of cancer as curative while it is only a symptomatic cure. It will take at least three more years of the most painstaking clinical observations before a final statement can be rendered.

In a few of the reported cases, a very late action of radiologic treatment on cancer has been reported. Doderlein (16) mentions the case of a patient who had been treated for four weeks with mesothorium without any apparent success. Six weeks afterward the patient appeared for an examination and was found to be completely cured. Metastases and cancerous foci lying more than 4 to 5 cm distant from the radium capsule remain entirely unaffected by the radium. Others again—Freund, Henkel, Krönig, Veit, and others—positively believe in a distant action of radium. The latter may be explained by the action of antibodies formed in the primary tumors by the action of the rays. They become absorbed by the blood stream through which they are carried to the deep lying foci and metastases, where they act in a chemical manner. The chemotherapy of cancer is based on a similar supposition.

General disturbances of health observed during the raying are nervousness, headache, lassitude, loss of appetite, fever, albuminuria, stomach and bowel distress, vomiting, diarrhoea, pain in the bladder, rectal and vesical tenesmus.

Many authors support radium treatment with the application of large doses of hard X rays to reach distantly lying metastases. Others combine with these intravenous injections of borocholol, colloidal metals, to increase the action of the rays and thus decrease the time of exposure to the rays. Allmann (16), Krönig (20), Bickel (1), Opitz, Werner (40) and Ascher recommend and use them. Thorium X solutions of radium

salts have also been recommended for intravenous use to support the local action of the rays

Prophylactic raying after operations to prevent recurrences is recommended by all the workers in this field Gauss (7) reports 21 such cases 20 of which have remained free of recurrences up to 41 years *post operationem* while the usual percentage of recurrences after operations without radiologic treatment is sixty within the first year following the operation

The question of whether inoperable cases of cancer of the uterus become operable after radium treatment is answered in the affirmative by some observers while others deny it This action however may be only an apparent one In inflammatory and not cancerous infiltrations may disappear in the neighborhood of the cancer However Sigwart describes a case of inoperable uterine cancer in which a bulbous oedema of the entire base of the bladder disappeared after radium and mesothorium treatment The carcinomatous cervix reassumed its normal shape and the case became operable The disappearance of the bulbous oedema should prove the retrogression of the cancer Franz considers the radium treatment of value in the purification of decaying cancers before operation and the rendering of inoperable cases operable by the disappearance of the infiltration Wickham (23) claims the same results

The action of radium on recurrent cancers is beneficial according to some observers as Abbé Grinsbaum Latzko and others Abbé (11) reports a case which has remained free from recurrence for 8 years Grinsbaum noted the disappearance of a recurrent cancer the size of a fist after a raying of 5 weeks Werner (40) Doderlein (16) Tate (22) and others state that recurrences are much more refractory to radium treatment than primary cancers

The opinions of the treatment its indications and results reported by various authors will shed light on the value of radiologic treatment of cancer of the uterus Kronig (12) mentions a case of an absolutely inoperable cancer in a woman who entered his clinic over two years ago in a desperate condition She has not had any treatments for the last 18 months has gained 30 pounds in weight and has so far had no recurrences Kronig (20) has had 27 cases of inoperable cancers of the uterus with a dissemination into the broad ligaments but without any metastases These cases have been free from recurrences from 6 to 14 months and the patients have no subjective disturbances Kronig is hopeful that some of the cases will not recur

Radium therapy is especially successful in operable cases Kronig (12) rayed seven such cases — all of them treated over six months ago They have so far remained free from recurrence while of three other cases which were subjected to a radical operation without subsequent prophylactic raying one case already has had a severe recurrence Kronig is inclined to believe that operable cases in particular should be subjected to the radium treatment, as the surgical treatment of cancer of the genital organs shows such bad results

Recurrences are much less amenable to radium therapy than primary cancers however prophylactic rayings after radical operations are remarkably successful Kronig has 20 cases which were rayed after a radical operation 17 of the cases have been discharged from 18 to 36 months ago 19 cases have remained free from any recurrences If we consider that a recurrence after a surgical operation occurs under usual conditions within one year in 60 per cent of the cases then we must call the above results remarkable at least

Bumm (27) is of the opinion that radiotherapy produces in inoperable cases an improvement in operable cancers a positive local cure During the last year he has been using prophylactic raying after every radical operation — so far with very good results Of 108 cases of cancer among 40 operable cases 15 have had recurrences However the time of observation has been too short to permit of a definite final opinion Of 12 cases of cancer of the cervix which were held to be clinically cured in August 1912 2 have recurred of 4 vaginal cancers only 2 have recurred

The penetrability of rays has been determined by microscopic examination of specimens obtained through operations or post-mortem examinations The destruction of the cancer tissue and cancer cells by the rays extended down 3 to 3.5 cm. in a depth of 4 cm. viable cancer tissue was found in spite of the administration of large doses of the rays Cancerous proliferations are usually not thicker than 1 to 2 cm. Proliferations deeper than 3 cm. are inoperable therefore the success of radiotherapy is most remarkable

During 1913 Doderlein (16) treated 153 cases of uterine cancer Thirty-one of these cases are clinically well subjectively as well as objectively Of these 31 cases 12 were so far advanced as to be inoperable 24 cases have died 93 are still under treatment 11 have been discharged One patient suffered from an inoperable

cervical cancer with profuse hemorrhages and ill-smelling discharges. She was so cachectic that her death was soon expected. She received altogether 11 630 milligram hours of mesothorium during a period of three months. She has remained free from all subjective and objective symptoms for the last nine months. Cancer recurrences after radical operations are much more refractory to radiotherapy than primary cancers. Doderlein states that cancers of the female genitalia are more amenable to radium treatment than any other cancers. The reason for this is twofold: the cancers are much more accessible and the radium can be inserted into the cancerous mass directly. Finally strictures and contractions of the uterus and vagina are less objectionable than those occurring after radiotherapy in the rectum, bowel or esophagus.

Chéron and Duval (10) report 158 cases of vaginal and uterine cancer which they treated with radium during the last five years. This is a large and relatively long observed collection. Chéron and Duval lay great stress on the technique and do not deny that the bad results in many cases are due to faulty technique. The chief points in their technique are: (1) Inoperable cancers of the uterus and vagina must be treated by Dommica's method of ultrapenetrating raying. (2) The ultrapenetrating method must be performed with the method of dosage inaugurated by Chéron and Duval. (3) The greater the amount of radium used the greater the filtration must be. The value of radium treatment lies not only in the number of cures it may produce but also in the remarkable improvements which can be obtained when all other therapeutic means are powerless. In the 158 cases there was one positive anatomical cure, 155 retrogressions, 93 of which were far reaching and among the latter there were 46 clinical cures, only 2 cases were refractory.

Since September 1911 Pinku (48) has treated 38 cases of cancer among which were uterine and vaginal cancers, mammary, rectal, ovarian recurrences, cancers of the tongue and prostate. The superficial cancer nodules disappeared but deep-reaching cancerous infiltrations remained uninfluenced. He obtained some very good results and concludes that radium treatment is indicated in operable cases in which the operation is difficult and therefore dangerous to life as in advanced age, grave organic diseases and all inoperable cases and recurrences. Prophylactic radium treatment after radical operation must be given for a long time to prevent recurrences. Among 38 cases, 9 clinical cures were reported.

One patient with a cervical cancer has remained free from recurrence for 18 months. The lasting value of radium treatment in cancer must be admitted.

Schauta (50) treated 16 cases of cancer with massive doses. He had no success with small doses of radium or mesothorium. He rayed cases in which an operation was difficult or contra-indicated, the inoperable cases, and, prophylactically all operated cases. His results as reported are 5 primary successes and 11 retrogressions.

Bickel (2) subjected 30 uterine, 19 mammary and 14 rectal cancers to radium treatment. He had one clinical cure among the uterine cancers, 5 among the mammary and one among the rectal.

Weinbrenner (37) reported the result obtained with radium in 32 cases of cancer of the uterus. He states that a local disappearance of the cancer can be obtained more successfully by radium than by any other means excepting surgical interference. He discusses especially the influence of radium on the healing of wounds following operations performed after raying of the cancer. Healing is usually not primary and a possibility of the formation of a fistula exists on account of a hyaline degeneration of the connective tissue. Of the 32 cases of cancer treated, 17 were uterine cancers of which 6 cases were operable. Of the latter 3 cases were clinically healed, 3 are still under treatment. Of the 11 inoperable cases 3 are clinically cured, 5 markedly improved, 2 are still being treated and one case was discharged as hopeless. Of the 9 recurring cancers 2 are clinically healed, 5 improved, one discharged as hopeless, and one refused further treatment. Of 2 vaginal cancers one was discharged as cured. One ovarian cancer did not improve, one vulvar cancer also was refractory. Two cancers were treated prophylactically after a Wertheim operation.

Abbé (11) reports a case of cervical cancer which was treated in 1905 after an excochleation with 60 mg. radium. The patient has remained well ever since. Abbé has had a number of inoperable cancers (cervical) which were treated by excochleation and radium and have remained well for the last 3 to 6 years.

Kroemer (4) treated 26 cases of cancer of the genital organs of these 4 cases died and 17 were improved or are free from any disturbances. Eight of these cases were later operated on.

Jung (5) treated 4 cases with marked favorable results, 10 clinical cures.

Wertheim (13) subjected 19 cases to radium and 3 cases to mesothorium treatment. Of the 19 cases, 9 were operable and 7 were afterward

subjected to radical operations. The post operative findings were microscopically 3 negative and 1 doubtful and 3 positive clinically 6 good results and 1 negative result. Wertheim denies that any unusual benefit is derived from radium raying of inoperable cancer. He attributes the disappearance of the discharge and odor to the purifying action of radium. The three cases treated with mesothorium showed good clinical results, the microscopic examination showed one positive and one negative while in the third case operation was refused.

Nahmmacher (30) deduces that operable tumors must be operated upon unless the operation is refused and the operation must be followed by a prophylactic radium treatment. Inoperable tumors must be rayed immediately.

Foveau de Courmelles (9) states that radium and X rays should not be regarded as antagonistic to surgery but as its accessory means. Radium should be used only if an operation is refused by the patient or is contra indicated or if the cancer is inoperable. All operations for cancer however should be followed by a prophylactic radium and X ray application.

In conclusion we may summarize as follows:

1. The action of radium and mesothorium is probably the same.
2. The smallest amount used in treatment should be 50 mg. radium element.
3. The α and soft β rays must be excluded by a metal filter.
4. The secondary rays must be absorbed by a soft rubber capsule inclosing the metal filter.
5. The amount of miligram hours varies from 3,000 to 6,000 or more.
6. The action of the rays should be supported by the X rays.
7. Chemotherapy must be combined with radiotherapy.
8. Radiotherapy is indicated in (1) in operable cancers of the uterus, vulva and vagina, (2) in operable cases where operation is refused or is otherwise impossible, (3) as a prophylactic to prevent recurrences after operations.
9. Contra indications are (1) advance of the cancer disease, as multiple metastases and local extent and (2) leucopenia of 3,000 or less and pronounced cachexia.

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ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

ANÆSTHETICS

Meltzer S J The Present Status of Intratracheal Insufflation (D gegenwärtige Stand der intratrachealen Insufflation) Berl Klin Wchnsch 914 h 677 743

By Zentralbl f d ges Chir u Grenzgeb

The author first discusses the characteristics and advantages of the intratracheal insufflation devised by Auer and himself. The basic principle of it is the limitation of the space between the mouth and the alveoli of the lungs consisting of the mouth and nasal cavities pharynx larynx and bronchi. By passing a rubber tube deep into the trachea the outer air is carried down to the bifurcation and by the application of a certain pressure to the smaller bronchi and thus much nearer to the alveoli so that a much less energetic pumping is necessary to attain satisfactory respiration.

It was found that often when the relation between the tube and glottis was not correct a continuous uniform stream of air did not produce satisfactory breathing and the animals then became cyanotic but it was found that this danger could be avoided if the pressure of the ingoing air was lowered a little at intervals. It is therefore recommended that in the practical carrying out of the method the pressure be lowered a little for about a second 6 to 10 times per minute. Complete interruption of the air current is not necessary and is inadvisable on account of the danger of aspiration.

The author thinks that one great advantage of his method lies in the current of air between the tube and the wall of the trachea which in contrast with the natural air current and that in positive or negative pressure methods always flows from within outward and therefore offers an excellent protection against the aspiration of infectious materials from the mouth and nose. This fact was proved in a series of animal experiments in which coal dust was placed in the trachea or after previously filling the stomach artificial vomiting was produced during the anaesthesia by the injection of apomorphine. When autopsy was performed on these animals afterward none of them showed particles of coal dust or vomited matter in the trachea. This advantage is shown in the practical use of the method on human beings in the limitation of post-operative pneumonia. Elsberg in 1000 cases of insufflation and Peck in 216 did not have a single case of post-operative pneumonia while the latter au-

thor in the same number of cases of anaesthesia by other methods had five pneumonias. The introduction of a shorter tube through the glottis for example Kuhn's and the introduction of air through such a tube without strong pressure does not the author thinks decrease the danger of aspiration but even increases it in mild degrees of anaesthesia and he has confirmed this view by experiments. He has, moreover shown that in insufflation anaesthesia the irritation of the trachea is very slight. Insufflations of 14 to 24 hours duration in animals did not cause any bronchitis or pneumonia or any traumatic injuries of the air passages.

Meltzer thinks his method possesses an advantage over the positive and negative pressure methods because in the latter methods at least a part of the lung must be in contact with the thoracic wall in order to produce gaseous exchange while in his method even with complete separation of the lung from the thoracic wall respiration continues. Furthermore when heart collapse is produced in differential pressure methods or in insufflation it is overcome much more quickly by resumption of insufflation than by differential pressure. Also by insufflation the gas exchange in the lungs is kept far above the necessary degree almost up to the normal while in differential pressure only a part of this gas exchange is accomplished so that it goes down much nearer to the minimum. This is a great factor of safety as the American engineers say in construction work where for the purpose of safety they produce a strength much above the probable demands upon it.

Too abundant administration of ether during insufflation may have a toxic effect. Such an intoxication is shown however soon after the proper limits are exceeded by the respiration of the animal becoming slower and shallower and finally disappearing entirely. In spite of these alarming symptoms the condition is not critical and can be maintained for about two hours before becoming dangerous so the anaesthetist is warned in plenty of time and danger can be avoided by decreasing the amount of ether.

In the second part of his work the author discusses the practical use of his method in human surgery. It has been used in about 4000 cases and these he thinks have shown that the method is justified. He does not give exact statistics from this material.

for he thinks that a better demonstration of its usefulness will be given by taking large series from individual surgeons rather than by collecting individual observations from a great number of surgeons, because in the latter case frequent failures by inexperienced surgeons may be included in the statistics.

So far as the author knows there have only been four or five deaths caused by insufflation anesthesia. He thinks these were due to gross errors and could easily have been avoided. One death was caused by fluid either passing directly into the air passages as the tube was accidentally lowered in the ether flask below the level of the fluid. In a second case the nurse noticed that the tracheal tube in her hand was slipping out and on being advised to push it in again she pushed it in so far that the air which was introduced could not pass out again and ruptured the lung. This accident could have been avoided if the tube had been fastened in the proper position before being connected with the insufflation apparatus and if the apparatus had had a safety valve. In a third fatal case the introduction of the tube guided by the finger was very difficult. Marked cyanosis developed and severe emphysema of the face and neck. In this case too the apparatus had no safety valve.

The last mentioned case is similar to one of Unger's in which it was also difficult to introduce the tube and emphysema followed. In another case where there was severe cyanosis and emphysema the patient was being operated upon for a tumor of the cerebellum. He was lying on his abdomen and his head was drawn sharply over the edge of the table making the outflow of the air very difficult. The anesthetist noticed this in time from the fact that the air did not bubble through the ether as well as before. Another death occurred from the tube being passed into the stomach instead of the trachea. Death followed before the distention of the abdomen was noticed.

The author does not believe that the insufflation can be blamed for any of these deaths. They could all have been avoided if the method had been sufficiently understood beforehand and if the apparatus had been provided with a safety valve which is absolutely essential. As for post-operative pneumonia most authors agree that it occurs more rarely after insufflation than after any other method of anesthesia. Moreover surgeons who have become practiced in the use of insufflation report that with it they have shock much less frequently either during or after the anesthesia. Insufflation should therefore be used in severe cases and in old and weak patients because they recover quicker and better after its use. Vomiting is rarer also after insufflation though there are no definite statistics to prove this.

Surgeons are also agreed as to the value of the method in operations on the neck, jaw, mouth and pharynx as the backward flowing current of air keeps the blood away from the air passages. For the same reason it is excellent in operations where the patient is liable to vomit as in ileus and also in operations in the region of the medulla oblongata since respiration is more apt to stop in such operations as a direct insufflation is of aid in that respect. It is of great advantage in intrathoracic operations, and it also does good service in internal medicine in cases of transient respiratory paralysis and in cases of poisoning.

Two cases are reported in one of which the patient had injected 1 gm. of morphine and then breathed gas and the other had used opium 60 days in succession. In these two cases insufflation was kept up for 14 and 12 hours respectively and both patients completely recovered.

In regard to technique the author believes the simplest and best method is to introduce the tube through a tube-shaped laryngoscope. The tube should be carried in until it meets resistance and then withdrawn 5 or 6 cm. This avoids the blunder of introducing it into the esophagus, for no such resistance is met with in the esophagus. This resistance should be encountered about 33 cm. from the teeth thus proving that the tube is in the trachea. It is better if the intratracheal tube to be too small than too large. If it is too large there is nothing to do but withdraw it if it is too small the difficulty can be overcome by moderate pressure in the region of the hypothyroid membrane. The pressure of the current should be regulated according to its effects on the movements of the thorax and abdomen. TRENK

SURGERY OF THE HEAD AND NECK

HEAD

Leriche R. Treatment of Parotid Fistulae of the Parotid by Destroying the Innervation of the Salivary Gland (Beseitigung der permanenten Parotidalfistel durch die Entnervung der Speicheldrüse). *Archiv für Klinische Chirurgie* 1914, 104, 754.
By Zeisler, H. and G. Ch. Greulich.

In order to avoid total extirpation of the gland in stubborn fistulae of the parotid the fistula can

be obliterated by destroying the secretory nerve of the gland. This is contained in the auriculotemporal nerve which divides into several branches back of the condyloid process.

The nerve is laid bare at the point of election, dissected with its branches from the gland and slowly trusted out by Thiersch's method. Leriche has used this method with complete success in three cases. LORCH

van Valkenburg, C. T. Focal Localization of Sensation in the Cerebral Cortex of Man (Zu fokalen Lokalisation der Sensibilität in der Grosshirnrinde des Menschen) *Ztsch f d g N* 1914 21 294
By Zentr bl f d ges Ch u i Gr zgeb

There is no longer any doubt that the central sulcus forms a boundary line between motor areas of the cortex that can be stimulated electrically and sensory areas that cannot. All attempts at localization of sensation should therefore be confined to parts of the cortex lying back of the central sulcus. The cortex lying behind the central sulcus receives sensory stimuli originating in the periphery. By faradic stimulation of this part of the cortex it is possible to produce sensory impressions in the peripheral part of the body of a patient who is fully conscious. The author proved this in two patients who belonged to that class of Jacksonian epilepsy in whom the beginning of the attack is announced by signs of sensory irritation in certain parts of the body. After trephining under local anesthesia he could by faradic stimulation of the posterior part of the central convolution before the removal of the diseased part of the cortex produce the typical parasthesias that accompanied the attacks.

There is a close relation between the motor and sensory foci that is the foci for motion of certain joints lie at a certain spot in the convolution in front of the central sulcus while the foci for sensation of the same areas lie in the same horizontal plane in the convolution back of the sulcus. There is parallelism between the motor and sensory areas in the two central convolutions.

The author regards the points of sensory stimulation found as the expression of circumscribed irradiations from centripetal fibers which serve to conduct sensory stimulation from circumscribed skin areas. The nearness of the motor and sensory points in the two convolutions has important physiological significance in the coordinating influence of sensation on movement. It has not been shown how the different qualities of feeling are distributed over the cortex but kinesthesia is a complex sensation, muscle sensation was never observed on stimulation.

The regional relation between the surface of the body and the surface of the cortex is shown by the post-operative findings in one of the author's cases in which 75 ccm of the cortex of the posterior central convolution was excised, thus being the sensory area for the ulnar part of the hand. The skin region affected was limited to the fourth and fifth fingers, the surface being of the same breadth on the dorsum and palm of the hand. There was hyperaesthesia for touch, lack of discrimination between two stimuli used at the same time, disturbed muscle sense, astereognosis, delayed temperature sense and ataxia all increasing toward the ulnar side. However the correct localization of stimuli was preserved also pain sense, pressure sense and temperature sense. This shows dissociation of sensation in cortical foci. Except pain sense, pressure sense and

temperature sense all kinds of sensations have a primary localization in the cortex. These foci are the same for different sensory stimuli that is impulses originating in the same area on the surface of the body end in the same cortical area in the posterior central convolution. STREISSLER

Friedrich P. L. Operative Indications in Gunshot Injuries of the Brain in War (Dopravne indikacije u gvozdene rane mozga u ratu) *B u h i Ch* 1914 1 371
By Zentralbl f d ges Ch u i Grenzgeb

There is a large percentage of gunshot injuries of the brain among the cases of death and of wounds handled during war. The methods in civil surgery which are not uniform by any means are not always applicable in war. Friedrich recommends that in injuries in civil life the wound be cared for at once but only in exceptional cases should there be any operative procedure on the brain. The entrance wound should be left partly open so that wound secretion, bits of necrotic brain and foreign bodies may be discharged. An illustration is given of Thiersch's crown bandage which leaves the wound free. From statistics of previous wars no general rules can be laid down as to war surgery as the varying conditions must be taken into consideration. In war it is not a question of trephining but of operation on an already open skull. There are various kinds of injuries to the brain and simple nomenclature should be agreed upon for the purpose of general understanding. As to depth, rebounding and grazing shots are distinguished, also open shots either penetrating the whole skull, or making a unilateral wound. Another classification is into wounds of the base or other regions of the skull.

In war a skilled surgeon should immediately look after the wound but the skull should be spared as much as possible. Not all fragments need be removed but only those lying free in the wounded area or those pressing against the brain. The degree of operation on the skull is illustrated by experiences in the hospital at Saloniki where it was observed that too active operative procedures often produced bad results while the results of expectant treatment were good. In closed injuries to the brain expectant treatment is still more indicated—at least attention to the entrance and exit wounds. Injuries to the base do not belong to primary surgery. Indications in rebounding shots in hemorrhage inside the skull and in the brain are discussed.

Even symptoms of brain pressure do not demand immediate operation if they are not progressive, sometimes even a technically correct early operation does not prevent late infection. The greatest reserve is also recommended when there are signs of cortical irritation in depressed fractures. Contractions are more of an indication for operation than convulsions. Disturbances of speech may appear even in injuries that are far away from the speech center. In all early operations general anesthesia

for he thinks that a better demonstration of its usefulness will be given by taking a large series from individual surgeons rather than by collecting individual observations from a great number of surgeons, because in the latter case frequent failures by inexperienced surgeons may be included in the statistics.

So far as the author knows there have only been four or five deaths caused by insufflation anesthesia. He thinks these were all gross errors and could easily have been avoided. On death was caused by fluid either passing directly into the air passages as the tube was accidentally lowered in the ether flask below the level of the fluid. In second case the nurse noticed that the tracheal tube in her hand was slipping up and on being adjusted to position again she pulled it in so far that the air which was introduced could not pass out again and ruptured the lung. This aident could have been avoided if the tube had been fastened in the proper position before being connected with the insufflation apparatus and if the apparatus had had a safety valve. In a third fatal case the introduction of the tube guided by the finger was very difficult. Marked cyanosis developed and severe emphysema of the face and neck. In this case too the apparatus had no safety valve.

The last mentioned case merits attention. In a patient in which it was also difficult to introduce the tube and emphysema followed. In another case where there was severe cyanosis and emphysema the patient was being operated upon for tumor of the cerebellum. He was lying on his left side and his head was drawn sharply over the edge of the table making the outflow of the air very difficult. The anesthetist noticed this condition from the fact that the air did not bubble through the ether as well as before. Another death occurred from the tube being pushed into the stomach instead of the trachea. Death followed before the distention of the abdomen was noticed.

The author does not believe that the insufflation can be blamed for any of these deaths. They could all have been avoided if the method had been sufficiently understood before and if the apparatus had been provided with a safety valve which absolutely excluded air for post-operative pneumonia.

Most authors agree that it occurs more rarely after insufflation than after any other method of anesthesia. Moreover, surgeons who have become practiced in the use of Lusk's apparatus report that when they have shocked much less frequently either during or after the anesthesia. Insufflation should therefore be used in severe cases and in old and weak patients because they recover quickly and better after its use. Lusk's method is rather also after insufflation though there are no definite statistics to prove this.

Surgeons are also agreed that the value of the method in operations on the neck, jaw, mouth and pharynx is that by drawing the current of air from the blood away from the respiratory organs. For the same reason it is excellent in operations where the patient is liable to faint as in the case of abdominal operations in the region of the medulla oblongata, since respiration is more apt to stop in such operation and in still on all in that respect. It is therefore a advantage in intrathoracic operations and it also does good service in internal medicine in cases of respiratory paralysis and in cases of pneumonia.

Two cases are reported in one of which the patient had injected 1 gm. of morphine and then breathed gas and the other had used opium two days in advance. In these two cases insufflation was kept up for 14 and 12 hours respectively and both patients completely recovered.

In regard to technique the author believes the simplest and best method is to introduce the tube through a tube held by laryngoscope. The tube should be inserted until it meets resistance and then withdrawn 5 or 6 cm. This avoids the blunder of introducing it into the esophagus, for no such resistance is met with in the esophagus. This resistance should be noticed about 11 cm. from the teeth thus preventing the tube entering the trachea. It is better for the patient's head to be too small than too large. If it is too large there is no getting it withdrawn if it is too small the difficulty may be overcome by moderate pressure in the region of the hypopharyngeal membrane. The pressure of the current should be regulated according to the effect on the movements of the tracheal bands. The result.

SURGERY OF THE HEAD AND NECK

HEAD

Ichteric R. Treatment of Pernicious Eritema of the Parotid by Destroying the Innervation of the Salivary Gland (Ikhterisches Eritem der Parotis durch Zerstörung des Nerven der Speicheldrüse). Ztschr. f. Ch. 9, 4, 754.

By Contrib. f. d. G. Ch. Gurenb.

In order to avoid total extirpation of the gland in stubborn fistula of the parotid the fistula can

be blotted by destroying the secretory nerve of the gland. This is obtained with a microtome nerve which divides into several branches back of the ciliary process.

The nerve is laid bare at the point of section, dissected with the branches up to the gland and slowly twisted by Thiersch's method. Leriche has used this method with complete success in three cases.

10000 after

which as much as 150 ccm of fluid were withdrawn showed that the hydrocephalus extended to the spinal canal and after the discharge of the fluid there was temporary cessation of the spasms but they quickly returned therefore the author established on the left side a permanent drainage of the intradural space at the level of the lumbar vertebrae into the abdominal cavity by the heteroplastic implantation of a large saphenous vein. The perivascular fat was left on it to prevent the collapse of the vein. The vein with the fat attached took without reaction but the discharge of the cerebrospinal fluid into the abdominal cavity soon stopped because the vein had collapsed. The author sutured a 5 mm rubber tube into the right side beginning at the lower end of the spinal dura and ending in the abdominal cavity in Petit's triangle above the iliac fossa between the internal and external oblique. It healed without reaction, the discharge into the abdominal cavity was satisfactory and the spasms improved to such an extent that the boy who had not been able to walk since his birth soon learned to walk without help.

The author recommends this drainage into the abdominal cavity in cases where there is free communication between the fluid in the brain and the spinal cord. In this way all the pressure-symptoms not only in the cord but in the brain may be over come. He points out that in the treatment of hydrocephalus it is important to study each individual case and to determine in what part of the cerebrospinal canal the stasis is greatest.

In diagnosis Strassburg's transillumination of the skull is of value as it often shows that internal hydrocephalus is unilateral even when there is no great asymmetry of the skull. The affected half should then be drained locally by puncture of the corpus callosum or by Mikulicz subcutaneous drainage or by Payer's blood drainage.

In one case where the stasis was chiefly in the fourth ventricle from post-operative occlusion of the outlet at the base of the brain after an ear operation the author succeeded in conducting the fluid into the pleura by inserting a rubber tube. To soften the sharpness of the end of the tube he drew over the lower part of the tube a living jugular vein removed from the patient. The fluid was not carried directly into the pleural cavity but into the extrapleural space at the apex. In this case symptoms of intracranial pressure such as choked disc, headache and dizziness disappeared completely after the insertion of the drain. The patient still carries the drainage tube and is free from all symptoms.

Howe treated another case successfully by inserting a tube into the abdominal cavity at a time by the insertion of a silk drain.

Rose F J Pathology of the Hypophysis (Z. Pathologie der Hypophyse) Ch. 40, 11, 1914, 94.
By Zentralblatt für ges. Chir. u. Grenzgeb.

The author's material consists of 7 cases of acromegaly 5 of which were operated upon with

one death. 4 cases of dystrophia adiposa genitalis with 3 autopsies and one clinical history. 4 cases of tumor of the hypophysis without acromegaly or adiposity. There were autopsy reports in all cases and there was also a case of diabetes insipidus with autopsy.

From his study of the cases Rose comes to the following conclusions:

1. It may be considered proved that acromegaly is due to hyperfunction of the hypophysis. It is the result of cosinophile adenoma of the hypophysis.

2. Fischer holds that a tumor of the hypophysis with acromegaly should be operated upon and the author agrees that that operation should be done in progressive cases.

3. Dystrophia adiposa genitalis is the result of hypofunction of the glandular part of the hypophysis. There is a decreased or totally absent function from destruction of this part of the organ or retention of its secretion which may be caused by pressure on the infundibulum or on the hypophysis.

4. Diabetes insipidus is without doubt due to changes of the intermediary and nervous parts of the hypophysis.

5. In cases where tumors of the hypophysis do not show any of the above symptoms but only brain symptoms all parts of the hypophysis are preserved and their connection with the brain is not interrupted. The tumors in such cases are benign.

RIEDEL & AMPFF

NECK

Rogers J Acquired Disease of the Thyroid Gland
In S. J. Phila. 94, 1381.

By Surg. C. J. Nec. & Obst.

The author believes that all acquired diseases of the thyroid except malignancy are closely related in origin, each beginning in the same way but sooner or later following a different route which terminates in one of the typical diseases of the gland or in one of the complications with which thyroid abnormalities are so often associated. He also believes it is possible to trace what seems to be the natural or regular progress of events when complications do not obscure it. With regard to so-called simple goiter he thinks that at one time or another and occasionally for long periods it may be accompanied by signs ordinarily accepted as those indicating either underactivity or overactivity of the epithelium and that all rapid changes in the outline or consistence of the gland while developing are accompanied by at least some of the signs of hypothyroidism or less often by those of hyperthyroidism. Moreover any of these so-called simple or supposedly symptomless goiters even after they have existed for years in a quiescent condition may give rise to the severest forms of any of the functional thyroid diseases.

Considering the conditions of myxedema and hypothyroidism the author thinks these terms should not be used synonymously. The so-called typical or idiopathic myxedema which begins after middle

should be abandoned in favor of local anesthesia in connection with morphine injections. When and where primary operations—that is operations within the first 48 hours—shall be performed depends on the means for transportation and care of the soldiers. Injuries of the skull and brain should be attended to as soon as possible either on the field or in its immediate neighborhood. Among the late signs of brain pressure without infection are unusual infection predominates in these cases and are to be judged by their clinical signs. A rise in temperature without any other cause serves as a warning. Operative interference should be undertaken through one of the wound openings. Several case histories are given.

GEORGE SCHMIDT

Streisler: Gunshot Injury of the Right Sinus Cavernosus (Schussverletzung des rechten Sinus cavernosus). *Deutsche Wochenschrift* 94.

By Zentralblatt für allgemeine Chirurgie

A case is reported in which Streisler successfully removed the bullet. The 25 year old man was suffering from a neuroparalytic keratitis of the right eye from partial anesthesia of the first branch of the trifacial and also from abducens paralysis. This fact indicated the exact location of the projectile and it was further confirmed by a stereoscopic roentgen picture. Because of the threatened loss of the eye operation was attempted. The external carotid was ligated under Haertel's ganglion anesthesia and the gasserian ganglion found by Lexer's method through the temporal. The dura was split in the neighborhood of the foramen ovale and the bullet was found in the lateral wall of the sinus cavernosus back of the tentorium process. It was extracted without hemorrhage. There was an excellent view of the field of operation even the infundibulum of the hypophysis could be seen. There was rapid recovery from the neuroparalytic keratitis. This case is interesting as it is the first time a projectile has been reported as having been removed from this location.

MADDELUNG and BRAUN report gunshot injuries of the hypophysis through the sinus cavernosus.

KRAUSE reports the successful extraction of a bullet from the optic nerve.

Four operations have been performed on the sinus for thrombophlebitis by BIECHER, HARTLEY, VOSS and KÜTTNER.

THIERI mentions a case of arteriovenous aneurism after gunshot injury of the sinus. For practical work the author recommends the intracranial temporal route for locating the sinus but in septic processes, such as thrombophlebitis he prefers the transphenoidal route on account of the danger of meningitis.

SELBSTBEKANT

DOWMAN, JR. C. E. Hemostasis, with Special Reference to Its Employment in Surgery of the Brain. *Surg. Gynec. & Obst.* 94: 45.

By Surg. Gynec. & Obst.

Recent experiments on the use of omentum and superficial fascia in the control of hemorrhage

from wound in parenchymatous organs are reviewed.

In cranial operations the choice and administration of the anesthetic is important on account of the influence on the control of hemorrhage. Ether seems to be the anesthetic of choice. A semi sitting posture of the patient also has a definite controlling effect on the freedom of hemorrhage.

Hemorrhage from the scalp is best controlled by some form of tourniquet that from the diploë with Horsley wax, wooden or ivory pegs or small pieces of cotton or muscle.

In cerebellar explorations where there is marked intracranial pressure it is sometimes necessary to aspirate the ventricles before the large venous lakes covering the occipital muscles coil over and allow further operative procedure.

Cushing's silver wire clips for the vessels of the meninges and brain are considered more desirable than sutures. Cotton pledgets wrung out of hot salt solution usually suffice for ordinary oozing. Hemorrhage from the sinuses can usually be controlled by small muscle transplants.

Several layers of interrupted fine silk sutures are recommended for closing wounds as such sutures act as ligatures in addition; aiding the approximation.

The author offers the following conclusions:

Complete hemostasis is one of the most important phases of surgical technique.

The type of operative surgery which sacrifices refinement in technique for the sake of speed should be condemned.

3. The use of various tissues as hemostatic agents has a distinct field of usefulness.

4. Hemorrhage during cranial operations is most troublesome and dangerous and requires for its control the exercise of patience, ingenuity and sound judgment on the part of the operator in addition to the employment of the various hemostatic agents and appliances known to surgery.

Heile: Surgical Treatment of Internal Hydrocephalus by Derivation of the Cerebrospinal Fluid into the Abdominal and Pleural Cavities (Zur chirurgischen Behandlung des internen Hydrocephalus durch Ableitung der Cerebrospinalflüssigkeit nach der Brunnhöhle und nach dem Hirtz'schen Drain). *Deutsche Grenzschicht* 94: 94.

By Zentralblatt für allgemeine Chirurgie

The author presented the case of an 8 year old boy who until four months previous could not walk because he suffered from severe extensor spasms of the lower extremities. An extreme spastic right foot and abductor cramps with internal rotation of the leg had resulted from it with the knee in flexion. The boy's skull bowed in the signs of severe hydrocephalus and the spasms of the lower extremity were the result of the hydrocephalus. Bilateral puncture of the corpus callosum did not produce any improvement in the spasm. The child was normal mentally but was absolutely prevented from walking by the spasms. Repetition of spinal punctures by

clude the nerve supply of the gland. Among those operated upon there were four deaths: one from the ligation of one superior group of thyroid vessels; one from the simultaneous ligation of the two superior and one inferior vessel. Both of these cases were operated upon under local novocaine-adrenalin anesthesia. The other two deaths followed the ligation of the two superior groups of thyroid vessels under general anesthesia. It was hoped that the quadruple ligation would not have to be supplemented by any other treatment, but later experience has proved that about half of the cases would improve up to a certain point and then remain stationary in a stage of ill health characterized chiefly by nervous irritability and asthenia and a blood pressure above 140 mm. of mercury. The tachycardia might or might not be noticeable. Further improvement seemed obtainable only by some organ feeding. The improvement after quadruple ligation of the thyroid blood supply which must include the lower nerve supply and generally all or most of the upper is not as rapid as after partial thyroidectomy, but the operation seems to be more certain in its results and less dangerous to life, and the patient has less subsequent risk of relapse even under the conditions and circumstances which seem to produce thyroid abnormalities. Thirty-six cases of typical exophthalmic goiter were subjected to quadruple ligation with no failures to effect improvement of the 36. 25 now consider themselves well and are able to lead normally active lives. D. C. BALFOUR

Brooks H. The Clinical Manifestations of Physiological Hyperthyroidism. *Long Island M. J.* 94 33 By Surg. Gynec. & Obst.

The author emphasizes the fact that physiological conditions may readily become pathological in degree. He believes that exophthalmic goiter is caused solely by hyperthyroidism and cites minor manifestations which point in the direction of the disease without actually developing into it. He speaks of the lack of sexual development accompanying loss of thyroid secretion and the rapid sexual development under the stimulation of hyperthyroidism. He compares the effect of castration in youth with the characteristics of cretinism. The effect of hyperthyroidism on the mentality of the cretin is most wonderful.

In overactive children when restlessness, irritability, egotism and selfishness develop, hyperthyroidism should be considered. W. H. BURR

Jackson H. C. Symposium on Hyperthyroidism. *Physiology of Thyroid*. *Long Island M. J.* 94 3 By Surg. Gynec. & Obst.

Jackson reviews the various theories regarding the function of the thyroid gland and mentions the early assumption that the thyroid was an expansive and contractile organ regulating the amount of blood sent to the brain. A second theory was the antitoxic one. This hypothesis held that certain toxic substances were selected by the thyroid which worked

them over and only by means of iodine saturated the substances so that they became non-toxic. The third theory was an outgrowth of the second and an addition to the autotoxic theory in that the substance active in the process was supposed to be a secretion thrown into the circulation to neutralize the toxic substances.

The view now current is known as the working hypothesis of chemical correlation. Substances produced in the cells of a gland and thrown into the blood stream directly are called hormones. The substances circulate through the various organs and tissues and bring about these specific effects. In this way one organ or tissue is correlated with others. In the case of the thyroid with a diminution of secretion the effect on the adrenals for instance is a diminution of their secretion. Removal of the thyroid brings about a compensatory hypertrophy of the pituitary, indicating that the pituitary acted vicariously with the thyroid. The effect on the sexual organs of a reduction of thyroid secretion is to bring about a marked disturbance causing the organs to pervert, degenerate or atrophy. The removal of the thyroid also causes the thymus to atrophy early. The pancreas is inhibited by the thyroid secretion so that in hypothyroidism the pancreas acts excessively making an increased power to oxidize carbohydrates.

In hyperthyroidism the adrenal activity is increased. The results of a stimulation of the sympathetic or autonomic system is also noted by the increased heart rate, higher blood pressure and increased metabolic activity. Thyroid secretion brings about renewed activity of the sexual organs; the thymus is much stimulated as shown by the formation of new cells in the thyroid and the pancreas is inhibited so that glycosuria may result.

Concerning the amount of iodine in the gland, it is known that some animals have no iodine whatever in the thyroid. It has also been shown that the amount of iodine in the thyroid may be increased or decreased by varying the iodine in the food. In dogs spontaneous hypertrophy is due to a diminution of iodine in the gland, but iodine is not the only factor and it must be associated in some way with the colloid present, but irrespective of the amount of iodine, removal of the gland brings about the same symptoms. In exophthalmic goiter it has been shown that the amount of iodine varies inversely with the hyperplasia, and in fact that the low iodine content is the causative factor. Hyperplastic glands when left alone resort to the colloid condition and an increase in iodine follows.

In any gland the process of secretion is a double one, viz. the production of the substance and its elimination into the circulation. These two processes go hand in hand, resulting in an equilibrium in the cell. If there were no elimination there would be a large iodine content in the gland and if the elimination was very rapid there would be a low content of iodine, but the gland would be exerting a marked influence on the body. This suggests a

with a primary atrophy of the thyroid is a rare disease while the myxedematous conditions which develop in long standing goiters are very common and are symptomatically the same except that the myxedema which occurs with goiter is generally much more easily relieved than the disease which is accompanied by no thyroid enlargement. Myxedema thus seems to begin in the majority of cases in its regular form with the simple hypertrophy which constitutes the first regular stage in all thyroid disease. The intermediate or next stage is that of hypothyroidism which terminates in the typical and fully developed disease.

In citing a case of simple goiter followed by myxedema Rogers refers to the superior value of a combination of a one gram thyroid tablet and a one gram capsule of desiccated suprarenal over thyroid alone.

He thinks that exophthalmic goiter and hyperthyroidism are not synonymous terms but that enlargement of the gland with all its accessories of deficiency in its functional activity must be regarded as the regular disease. The third stage which may entirely hide the second is marked by the characteristic rapidity of the pulse and the nervous irritability which are generally accepted as the chief evidences of hyperthyroidism. He endeavors to show that exophthalmic goiter is a later stage than the hyperthyroid stage. Though regularly produced by hyperthyroidism, exophthalmos is not by any means a constant result of it. Exophthalmos appears after and not before the other symptoms and when it does occur it marks the incidence of the fourth stage or that of typical exophthalmic goiter. This stage of the disease is marked by a gradual and generally intermittent development of its distinctive going symptom. After it appears the hope of recovery is distinctly less than before and the probability of the development of complications are greatly increased. He refers to the occasional form which develops without any appreciable enlargement of the thyroid. The stage of goiter and hypothyroidism does not occur. That of hyperthyroidism appears to develop suddenly or even suddenly a day may or may not be accompanied by more or less pronounced exophthalmos.

Recovery from hyperthyroidism usually takes place from any stage except the last stage, i.e. the myxedematous state following exophthalmic goiter and the prognosis seems better in the presence of goiter than when this symptom is absent. The prognosis is much worse after the development of exophthalmos than before. More than 84 per cent of the deaths in hyperthyroid conditions, the author experiences occurred in cases which have presented this symptom. If recovery takes place it is gradual and through a retracement of the steps which mark the advance of the disease.

Discussing the physiology of the thyroid the author says that it is an organ concerned chiefly in the production and expenditure of energy or more briefly as an organ of nutrition. The only demonstrable nerve supply of the gland in man is a filament

which arises from the superior cervical ganglion of the sympathetic and follows approximately the course of the superior thyroid vessels and enters the gland near them. More recent experiments have confirmed the interdependence chiefly of the thyroid pancreas and adrenal sympathetic or chromaffin system and clinical observation for the most part has added to these the pituitary and thymus. The thyroid and the adrenal seem capable of mutual stimulation or activation and both give evidence of some inhibition upon the pancreas. The pancreas in turn seems to inhibit the activity of the other two glands. The thymus also seems to present some inhibitory effect upon the chromaffin system. The latter theory of disorders referable to these ductless glands suggests a primary neurosis of the sympathetic system and he thinks that if each of the ductless glands excites or inhibits some parasympathetic group of nerve fibers at least a part of the relationship and interdependence of these organs becomes apparent.

As to the cause of abnormalities of the thyroid, he believes that fatigue plays a very important and probably the causal role.

He states that surgical problems of hypothyroidism arise in practically every case of goiter and in this type of goiter he advises double ligation.

The treatment of hyperthyroidism by the removal of one lobe or one lobe and the isthmus of the diseased gland can undoubtedly yield perfect and lasting cures between 50 and 75 per cent of all the cases so treated. The worst result seems to have occurred in subjects who were operated on before they had attained their maximum growth and development, that is before the age of twenty-five. In those who had small goiters. With the exception of the few successful or partially successful, secondary thyroidectomies the only treatment the author has found beneficial in these cases which has already had a partial thyroidectomy has been radiotherapy. The most frequently self-cured especially in those with high blood pressure is the adrenal proteins which contain epinephrine. The pituitary the thymus the pancreas has seemed indispensable for the relief of others. The author results with the serum have not been satisfactory for the mass of cases. However, 50 per cent of perfect cures and some 50 per cent of more less marked improvement. With the serum treatment there was a considerable percentage of flares and relapses, and among these there was mortality of about 8 per cent but it is extremely beneficial in the early and uncomplicated case of hyperthyroidism and has proved almost specific in the refractory case of early acute toxic hyperthyroidism. As regards the operation treatment he agrees that the interruption of the blood and nerve supply of the gland seemed safer than thyroidectomy.

Twelve hundred and eighty cases prior to August 9, 1913 were treated by the ligature and division of one or more of the thyroid vessels which must in

roidism and the second is that the disease is a nutritional disturbance and the changes in the thyroid and other organs are symptomatic. The author is inclined to believe that the theory of hypersecretion is too simple and too narrow to explain the observed facts and that in exophthalmic goiter the disturbance of the thyroid is insufficiently its reaction compensatory and its significance symptomatic.

W. H. HILL

Klose: Progress in the Surgical Treatment of Basedow's Disease. (W. H. Hill, ed.) *Archiv für klinische Chirurgie*, 1914, 104, 10. (Zentralbl. f. Chir., 1914, 104, 10.)

Klose discovered that the best results were obtained in Basedow's disease by reducing the size of the increased thyroid as much as possible furnished the basis of the previous operative treatment. Thyroid hypertrophy is the cause of death in 82 per cent of the fatal cases. Klose believes that the thymus is always involved in Basedow's disease and that it is a disease of the whole lymphatic system.

One group of Basedow's disease is thyroiditis in origin and there is only a quantitative involvement of the thymus which disappears spontaneously after reduction of the thyroid.

In a second group the thyroid and thymus are involved equally and peacefully. The thymus

changes are similar in nature to those in the thyroid and may briefly be designated as epithelization. The injury is due to a chemical toxin and is especially severe when the virus is disseminated through the neighboring tissues by the operation on the thyroid. Often there is an infiltration of the thyroid with thymus elements.

A third and more unusual group are the thymomas, cases in which the thyroid is only quantitatively involved and generally found in young individuals together with diffuse colloid goiter.

The essential point in treatment is to avoid thymus death by removing the toxic focus in the thymus; the combined operation is indicated. The diagnosis of thymus disease must be made before operation. It is indicated especially by symptoms of bulbar and articular myasthenia. Not much is to be gained by demonstrating increased sympathetic or vagotonic symptoms. Klose thinks the absolute increase in lymphocytes is important as it indicates hyperfunction of the thymus.

In every severe case of Basedow's disease the thymus should be operated upon. In the severe cases there is only slight post-operative reaction. Partial local excision of the thymus is made under local anesthesia and will be intracapsular on account of the danger of hemorrhage. Klose reports 200 cases operated upon at the Rohn clinic—no deaths resulting. HORT

SURGERY OF THE CHLST

CHEST WALL AND BREAST

Caldwell: Cancer of the Breast. (W. H. Hill, ed.) *Archiv für klinische Chirurgie*, 1914, 104, 10. (Zentralbl. f. Chir., 1914, 104, 10.)

In a review of the literature the author brings forth in an adequate way the necessity for early surgical intervention in tumors of the breast. The results of the United States show that the general rule on the increase. The only known way to cure cancer is early radical excision. This early surgical intervention can only be brought about in two ways: (1) by educating the practitioner to handle all cases of tumor of the breast thoroughly, not only by the use of the knife but by educating the public to report to the doctor at once after seeing the lump in the breast.

The author quotes statistics to show that the average time from the discovery of the lump to the time of operation is four to five months. He quotes the statistics of the breast cancer in the United States and shows that the public of the United States is not properly educated in the matter of the breast cancer. The author is of the opinion that the only way to save the breast is by the immediate resection of all breast tumors and the improvement of the breast cancer.

treated early will let them to place greater emphasis on their instruction to have the neoplasms immediately attended to. Bloodgood says that two out of every three tumors of the breast in women over 25 years of age are malignant. In cases where the tumors are malignant on microscopic examination, whereas they were apparently benign from the clinical symptom, the percentage of cure is 100 in adenoma carcinoma of the breast, whereas if the tumor is clinically malignant the percentage is 50. The time to absolutely prevent cancer is to use the trouble while it is in the pre-cancer stage. The only way to prevent cancer is to remove all tumors benign people and prevent them from becoming malignant. The cure of the breast cancer is 100 out of 100. The cure of the breast cancer is 100 out of 100. The cure of the breast cancer is 100 out of 100.

Quadrat: Treatment of Fractures of the Clavicle. (W. H. Hill, ed.) *Archiv für klinische Chirurgie*, 1914, 104, 10. (Zentralbl. f. Chir., 1914, 104, 10.)

Quadrat says that the clavicle is not as important as the other bones of the upper extremity. The clavicle is not as important as the other bones of the upper extremity. The clavicle is not as important as the other bones of the upper extremity. The clavicle is not as important as the other bones of the upper extremity.

final thought that perhaps the thyroid effect in exophthalmic goiter is a secondary and not a primary one since the thyroid can be accelerated or inhibited by the secretion of the glands in the same way as it acts on others. W H B Kuc

Mayo C. H. Hyperthyroidism. Prim. Rev. and Late Results of Operation. S. J. Gy. & Obs. 974 x 35. By S. J. Gy. & Obs.

Mayo reviews briefly the history of exophthalmic goiter summarizing the pathologic and clinical studies which have been made on this disease in the Mayo Clinic and giving in detail the operative procedures in use at present.

In discussing the pathology he notes that the gland presents a definite pathologic picture of primary hypertrophy and hyperplasia, the degree of which is parallel to the clinical stage of the development of the disease. This relationship remarkably constant. A table accompanying the original article gives in parallel columns a comparison of the pathologic groups of thyroids from cases of toxic hyperplastic non-toxic hyperplastic and atoxic simple goiter.

Clinically he notes that patients coming under observation for hyperplastic — ordinary exophthalmic — goiter give a history of having first noted the goiter at the average age of 32 years, the first evidence of intoxication being noted at the average age of 32.9 years while the corresponding ages of patients with toxic non-toxic hyperplastic goiter respectively 2 and 36.5 years thus showing that in patients with hyperplastic thyroid there are at least two distinct clinical groups.

All patients during periods of exacerbation of the disease should be considered medical cases. Surgery is indicated in the up wave of improvement. Cases resistant to medical treatment may be given injections of boiling water into the gland. In most of the severe cases a ligature is made first of one both of the upper poles. Following single or double ligation patients gain an average of 2 pounds within the first four months at the end of which time the larger part of the gland may be removed with safety. In thyroidectomy he speaks especially of the importance of an adequate preliminary exposure of the gland before any attempt is made to remove it and of the importance in so far as possible of leaving undisturbed the capsule of the gland, thus protecting the recurrent laryngeal nerves and the parathyroids. He notes the present low mortality from operative procedure — as many as 78 successful operations on the thyroid having been made between deaths — and says that return of clinical symptoms occurs in but small percent of cases, usually through the removal of too much gland.

Fraser A. Exophthalmic Goiter. Its Pathology. Lo. J. Med. 94. 36. By Surg. Gynec. & Obst.

In exophthalmic goiter all agree that the most common and constant change is an active hyper-

plasia of the thyroid gland and the lymphatic tissues. Some observers claim that there are also changes which are specific others that they are neither constant nor specific. A third view is that the glandular changes are the most part constant but not specific. In general the changes in an exophthalmic goiter represent but one variable stage in the one fundamental cycle of exophthalmic reaction of which the changes in the forms of goiter, myxedema, etc. represent the other stages. The one characteristic reaction seems to be the only one of which the thyroid is capable no matter what the cause may be which gives rise to it.

The whole cycle of reaction may be divided into three typical stages: (1) progressive developmental (2) regressive involuting (recovery) colloid (3) premature atrophic exhaustion stage (myxedema).

In the developmental stage the gland grows larger, softer and more vascular. The epithelial cells increase in number and size, the alveoli become larger and new ones are formed, the capsule and stroma become hyperplastic and the stainable colloid decreases. Very early the alveolar walls send papillary projections into the lumen. This invagination of the wall is claimed by some to be specific for exophthalmic goiter.

In the second stage the gland is returning to the normal. It becomes firmer, less vascular and of a normal color. The stainable colloid increases, the alveolar epithelium becomes cuboidal and the papillary ingrowths disappear. This stage represents a recuperation, not a degeneration.

In the premature atrophic stage there is marked hyperplasia of the stroma at the expense of the alveoli. The epithelial cells undergo progressive atrophy and as the sclerosis proceeds the alveoli become compressed and finally appear as scattered nests of cells imbedded in a dense fibrous stroma. These three stages may alternate at short or long intervals and the transformation of one into another in dogs has been shown.

Regarding the presence of these changes in exophthalmic goiter there are two quite different theories. According to one all of the above types as well as the normal gland are found in true exophthalmic goiter. The other theory is that active hyperplasia with invagination of the alveolar walls is found only in true exophthalmic goiter.

The changes in the thymus, spleen and lymph glands are identical with those found in the thyroid. Nervous system changes do not consist in the heart hypertrophies, the actively hyperplastic stage of the thyroid does become smaller in size in involuting. Secondary changes, the valvular stenoses and myocardium are probably nutritional or toxic in origin. Atrophy and fatty degeneration have been observed especially the muscles of the eye. In the blood there seems to be a loose parallelism between the percentage of myelocytes and thyroid and lymphoid hyperplasia.

There are two views regarding the meaning of these anatomical findings. The first: hyperthy-

In the third class of cases death occurs after a long or time. In these cases the patient dies with symptoms of progressive heart failure. Attempts were made to confirm these conclusions experimentally clinically and from pathological anatomy. The experiments were made on dogs. In the first group the dogs survived the shock. Because of the extreme degree of stasis a large hæmatoma developed in the neck. The animals were short and Autopsy a few days later showed marked displacement of the pulmonary and its branches. In spite of this a normal heart could overcome this resistance successfully for a considerable time.

The second group included the acute cases of death. The rapid fall of pressure in the arterial system and its rapid rise in the venous is typical of these rapidly fatal cases of embolism. On autopsy there is a contracted almost empty left ventricle and a right heart filled to the maximum. Microscopically no changes could be found in the heart. The overdistention of the right heart is responsible for death in certain cases for sometimes when it is unburdened strong pulsations begin again.

In the third group all the late cases of death are collected. A hemorrhage in the heart is the characteristic finding. The chief cause of death is heart failure. Death from shock could not be demonstrated experimentally the other two forms could

NAEGELI

HEART AND VASCULAR SYSTEM

Linzenmeier G. Closure of the Ductus Arteriosus Botalli after the Birth of the Child (Der Verschluss des Ductus arteriosus Botalli bei der Geburt des Kindes). *Ztsch f. Geburtsh. u. Gyn.* 94:1, 1917.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

After the different theories as to the closure of the ductus arteriosus are discussed, some experiments on children's cadavers are reported. Parasitic molds of the right carotid are used to represent the lumen of the ductus arteriosus.

The author comes to the conclusion that none of the theories thus far advanced as to the closure of the duct is by itself sufficient to explain the sudden shutting off of the duct after birth. He thinks the chief factor in the closure of the duct immediately after birth is the linking of the duct from its origin as a result of the change in the position of the heart which follows the expansion of the lung after the first respiration. The conditions for this, on a linking are especially favorable because of the loose embedding of the duct in the surrounding connective tissue and the loose structure of the wall of the duct. The linking is increased by traction from the pericardium, the fold of which is fixed at the point where the duct is twisted. It is further increased by the spiral muscle bundles of the duct and there is also a narrowing of the lumen from the contracting muscle projecting inward in a roll like fashion. A further important factor is the traction on the duct of the

branches of the pulmonary when the lung expands they cause a marked curvature backward of the bifurcated end of the pulmonary artery and the point of insertion of the duct.

HOLSTE

PHARYNX AND ESOPHAGUS

Hacker von: Restoration of the Esophagus by an Antithoracic Tube of Skin and Large Intestine. (Ersatz der Speiseröhre durch antethorakale Haut Dickdarmschlauchbildung). *Deutsche Gesellschaft f. Chir.* 1914.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Cases have previously been published of antithoracic plastic operation on the esophagus with perfect functional results by Herzen with the use of jejunum by Lexer, Frangenheim and Heyrovsky with skin and jejunum. The author adds a case in which skin and colon were used in a 12 year old girl.

In the author's case according to Vulliamy's method the spleen end of the transverse colon was drawn out of the abdominal cavity and fixed under the skin in front of the thoracic wall up to three finger breadths below the clavicle, the liver end being implanted into the anterior wall of the stomach. This operation was performed June 19, 1913 and recovery was uneventful. At the second operation July 29, 1913 the esophagus which was still contained within the thorax and which ended as a blind tube above the stricture was brought out through a neck wound and also fixed subcutaneously in front of the thorax near the opening of the intestine. As a piece of it had to be removed the neck esophagus was finally opened axially just above the left sternoclavicular articulation about 5 cm from the intestinal esophagus.

At the third operation Oct. 25, 1913 the interval of 5 cm was filled in with a tube of skin. It healed by first intention except for a small fistula that later healed spontaneously so that after five months the entire plastic operation was finished. A blind pouch was formed at the point of opening into the stomach and it was feared that a peptic ulcer would develop so after resection of a piece of intestine 10 cm long it was implanted into the lesser curvature. Uneventful healing followed. Since the end of December 1913 the child has been able to take all kinds of food through the mouth so that the stomach fistula was closed.

The author discusses various points in regard to the case. He calls attention to the excellent condition of the vessels and the good motility of the segment of colon and the possibility of quickly completing the whole plastic operation in from 5 to 6 months and in the future this can be still further shortened as the intestinal esophagus can be implanted at first into the lesser curvature of the stomach. Points to be noted are that the food was retained for a considerable time in the new formed esophagus before being passed into the stomach and that intestinal movements were preserved in the transplanted in

1 The patient is first placed in the horizontal position so that the arm on the injured side hangs down perpendicularly from the bed without any support. The shoulder projects over the edge of the bed and rests on a cushion. The head and neck are bent toward the injured side so as to relieve tension on the muscles. The body can be fixed in counter extension. In this position within two hours an almost ideal reposition of the fragments takes place spontaneously. If there is great pain a few cubic centimeters of cocaine or stovaine can be injected at the site of fracture.

2 In the second position the forearm is bent at a right angle and laid on cushions. The necessary extension for maintaining the reposition being furnished by the overhanging upper arm. This position is maintained for 10 to 12 days.

3 For patients who cannot endure the second position on account of its long duration the physician can add a third position in which the arm is brought into the direction of the long axis of the body. Care must be taken, however, that there is no motion at the site of the fracture. In older fractures if the callus is still soft the angular position can at least be overcome and the greater part of the shortening.

Complete recovery with normal motion is attained within 3 or 4 weeks. As a general rule there should be no massage of the site of the fracture. The very slight callus disappears soon and the result is so good that a little later the site of the fracture can not be distinguished. G. W. W.

Sauerbruch: Surgical Treatment of Pulmonary Tuberculosis by Extrapleural Filling (7 chirurgischen Behandlung der Lungentuberkulose mit extrapleurale Plombierung) *B. H. M.*
CA 9 4 xc 47

By Zentralblatt für ges. Chir. Grenzgeb.

Pneumolysis and extrapleural filling can be present be discussed only with reference to the possibilities of their development. Pneumolysis and filling should be considered cases of tuberculosis with marked induration and extensive obliteration of the pleura. Filling as heretofore used can not take the place of thoracoplasty. It affects only a limited area of the diseased lung like a partial thoracoplasty therefore exclusion of rest of the whole lung are not attained. Large fillings which would exclude the whole lung tend to produce a rind may involve difficulties in the ligation of the pleura and may become dangerous by displacing the mediastinum. Total filling can be used only when there is a fixed mediastinum. Partial filling may be very dangerous when, after ten successive plastic operations, cavities with fixed walls do not collapse sufficiently.

The chief field of partial filling is in the local compression of cavities that have remained after plastic operations. Sauerbruch uses paraffin with melting point of 50° C or B. R.'s paste. The paraffin semi-solid condition is introduced cautiously through the mouth. H. L. L.

Regaud C. and Crémieux R. Experimental Basis of Röntgen Treatment of Hypertrophy of the Thymus (Die experimentellen Grundlagen der röntgentherapeutischen Behandlung des Thymushypertrophie) *Strahlentherapie* 9 014 v 708
By Zentralblatt für ges. Chir. Grenzgeb.

According to previous workers Heineke, Rudberg, Aubertin, Bordet, Pigache, and Bédère the roentgen rays have an intense effect on the thymus which manifests itself in a degeneration especially of the lymphocytes which may be followed by regeneration.

Regaud and Crémieux have tested these results in young cats using modern radiological technique. After the application of a dose of 14 H a reduction of the thymus was demonstrable on the second day on the fifth day the reduction was 80 per cent and by the fourteenth day over 90 per cent. This reduction is due to a necrobiosis and absorption of the thymus lymph nodes. The cells of the connective tissue are said to be transformed into Hassall's bodies. The regeneration begins about the fifteenth day in the lymphocytes that have remained intact and finally leads by karyokinesis to complete *restitutio ad integrum*. The thymus could be completely destroyed by one irradiation of 50 H. The general condition and the skin were not injured by the treatment. From their experiments these two authors recommend roentgen irradiation as the method of choice in the thymus hypertrophy of children on the hypothesis that the histological structure of the hyperplastic thymus differs in no respect from that of the normal thymus. Light cases were cured after 6 to 8 irradiations.

The treatment of cases of thymic hyperplasia with attacks of tetanus consisted of dosage tint III Bordet with aluminum filter 3 to 4 mm thick and 35 to 45 minutes irradiation. After about twenty days this was repeated with tint I Bordet and a focal distance of 30 cm. Chronic cases of tetanus tint I O Bordet, 3 sessions of 8 days for 3 times. The regression of the thymus always controlled radiologically. L. O. S.

TRACHEA AND LUNGS

Schemm, C. E. D. and J. H. W. Experimental Study of the Cause of Death in Pulmonary Embolism (I. Primäre Urtodes durch Lungenembolie) *Ursach d. Todes durch Lungenembolie*
Z. f. f. d. g. 9 04 v 340
By Zentralblatt für ges. Chir. Grenzgeb.

From limited observations at the Zurich clinic the authors conclude that the three causes of death in cases of pulmonary embolism are: 1. The first class of case death occurs almost immediately at the moment of the embolism. This not produced by the mechanical occlusion of the pulmonary vessels but the death is due to shock generated by the relatively small embolism. In the cases where a large embolism suddenly cuts off the lumen of the pulmonary artery one of the chief branches the lesser circulation is interrupted and the death occurs after a few minutes, due to asphyxia.

Tirumurti T S Lymphangio Endotheliomatous Growths of the Peritoneum *Ann S S Phila* 914 1c 356 By Surg Gynec & Obst

The author reports a case occurring in a male 60 years of age who complained of fulness in the abdomen for six weeks. The swelling started in the left iliac region. The patient was gradually losing flesh and strength and was vomiting a greenish yellow liquid. On palpation an indistinct tumor was felt in the lower part of the abdominal cavity extending into both iliac regions its upper being about two finger breadths above the umbilicus. It had a soft crumbling doughy feeling was dull on percussion and was separate from the liver dullness by an area of resonance. An exploratory laparotomy was performed and the intestines were found thickened and matted together. The small intestines were drawn back to the posterior abdominal wall owing to the thickening and contraction of the mesentery. As the disease was extensive the abdominal wall was closed. The patient died the day after operation.

At post mortem the peritoneum both visceral and parietal but especially the latter was found covered with numerous firm raised yellowish gray plaques and nodules. Over the cæcum and ascending and descending transverse colons there were numerous firm yellowish nodules like peas and beans. The peritoneal cavity contained about a pint of blue stained fluid. The mesenteric glands were not enlarged. There was no omentum to be seen. A few small yellowish raised deposits resembling tubercles were seen on the surface of the spleen otherwise the intestinal organs were normal.

Microscopic examination of the nodules showed a general condensation of fibrous tissue. In places the fibrous tissue was hyaline. The fibrous tissue was invaded by fibrosis and small loculi containing cell oval in shape and having a large proportion of protoplasm were seen. Some cells contained four nuclei. In places the section had the appearance of a scirrhous carcinoma. No giant cells caseating areas or giant cell systems were found. The nodules in the capsule of the spleen consisted of hyaline fibrous tissue which was arranged in a whorl the center being necrotic.

The author thinks the condition was probably one of a diffuse lymphangio endotheliomatous proliferation of the peritoneum causing a chronic proliferative and productive inflammation of the peritoneum.

WARD I COR 11

Curtis H The Most Efficient Method of Drainage in Septic Peritonitis, and Its Prevention in Immediate Suture of Perforated Gastric and Duodenal Ulcers etc. *Ci J* 9 4 xliu 55

By Surg Gynec & Obst

The author defines two principles of efficient drainage for the prevention and treatment of septic peritonitis.

1 Arranging for the escape of the irritating fluid at the lowest point which it tends to descend.

2 Routine bilateral nephrectomy.

Under the first heading a rubber tube is inserted

in the cul de sac of Douglas in married women and in the rectum in men and unmarried women. The author has made a slight modification in Bidwell's method of introducing the rectal tube. He has devised an instrument called a drainage tube introducer. This introducer has the shape of a well known form of piston-elevator with a blunt point at one end which is lightly curved for perforation of the bowel or cul de sac. The other end is bulbous with a depression between the bulb and the stem. A good sized drainage tube corresponding in diameter to the cylindrical shrink of the instrument is fitted over the bulbous end which has a thread on it to prevent the tube slipping off. The free edge of the tubing lies in the depression just beyond the bulb so that no obstruction or resistance is perceived in introducing the instrument through any structure.

The author's technique is as follows. One hand of the operator being double gloved the blunt point of the curved end of the instrument with its concavity directed forward is carefully introduced through the laparotomy wound behind the bladder and in the case of the rectal as compared with the vaginal drainage the blunt point is made to project through the anterior rectal wall at a point just above the prostate in men until it can be felt with the tip of the index finger of the other hand. With a sharp movement the blunt point of the instrument is forced through the anterior rectal wall on to the counter pressing finger. The instrument is drawn through with its attached tube. The inner end of the tube is brought to lie just below the sacral promontory the outer end is stitched to the perineum following Bidwell's scheme.

The difficulty in Bidwell's method of subphrenic drainage lies in keeping the inner end of even a stout rubber tube in the space desired and its invariable tendency to sink where it passes through the abdominal wall. To obviate this the author uses a solid pewter bougie of narrow bore. In addition to the pewter rod a gauze wick may also be inserted at the time of operation. These tubes are inserted through the loin and placed between the liver and the diaphragm and between the spleen and the diaphragm.

After all the drains have been placed the abdominal cavity is thoroughly flushed out with normal salt solution using plenty of it. The coils of the intestines are gently but thoroughly overhauled to facilitate the escape of accumulations of irritant material. Should adhesions be evident between the coils they are gently separated.

EDWARD L CORNELL

Speed K Observations on Inguinal Lipomata Based on One Hundred Fifty Four Herniotomies *S S G C & Ob* 9 4 ix 373

By Surg Gynec & Obst

Attention is called to the masses of fat so frequently found in connection with the spermatic cord when the inguinal canal is opened in herniotomy and to their mechanism in the cause of hernia primarily and

In recurrence after operation. These masses of fat bulge forward and increase the cord bulk materially. They are divided into two types: (1) those occurring in direct hernia which are usually flat heavy masses of fat covering the weak area in the abdominal wall but which may extend down the canal and out of the external ring and (2) those of indirect hernia which assume shapes of (a) long pedunculated masses slightly lobulated covered with a more or less true peritoneal like covering which looks like a very thin sac taking their blood supply from above (b) broad bulging masses originating behind the cord at the internal ring and (c) distinct fatty masses incorporated in the tissues of the cord with an attenuated neck at the internal ring.

Frequently the lipomata conceal a small sac at the upper end and they should be stripped out and well freed at the internal ring before removal. It is thought best to cut them off after ligating either separately or with the sac. In this series of cases lipomata were present in over 47 per cent of all cases of all ages and weight.

Hawes J B Mesenteric Gland Tuberculosis.
Int J Surg 9 4 xxi 1946

By Surg Gynec & Obst

Hawes states that at the Massachusetts General Hospital during period of fourteen years out of thirty two patients entered on the records as having mesenteric gland tuberculosis only three were diagnosed as such prior to operation.

The cardinal features that lead to this diagnosis are:

1. The disease is one of childhood or early youth.
2. Signs and symptoms of a systemic infection such as loss of weight and strength, fever, rapid pulse and loss of appetite.
3. A tuberculous process elsewhere in the lungs, glands or bones.
4. Abdominal symptoms, usually subacute or chronic, differing from appendicitis as to the site of pain, tenderness, etc.
5. A tumor is commonly located to the right of the umbilicus; it is only slightly tender and often more or less painful.

Talbot is quoted as saying that fat is present in the stools but Hawes thinks its absence should not outweigh the above evidence.

The treatment should be hygienic with the use of tuberculin.

D L Davis

GASTRO-INTESTINAL TRACT

Palefski I O The Examination of the Gastro-duodenal Tract. *Int J Surg* 9 14 xxi 977

By Surg Gynec & Obst

Palefski aims to point out the shortcomings of the old method of gastro-duodenal examination and to emphasize the importance of skill and precaution in the use of these new instruments which not only facilitate examination but add a great deal to our knowledge of gastroenterology.

A detailed history and thorough examination will oftentimes eliminate the gastro-intestinal tract but all the methods of examination should be resorted to. The fluoroscopic screen is relied upon to reveal changes in peristaltic activity and the roentgen ray and plate will demonstrate the mechanical derangements. He lays great stress upon the chemical analysis. Until a few years ago the secretory powers of the stomach could be easily ascertained by examination after the Ewald test meal. The method recommended by Pavlov in which the right hypochondriac region is massaged after the ingestion of food is not always reliable. The examination of the food for enzymes in pancreatic derangements also fell into disrepute. Then came the invention of the duodenal tube. Gross and Einhorn and later Hess with the duodenal catheter and with these ingenious instruments fresh specimens could be readily obtained and examined.

The author has modified the stomach tube and has tried to correct all the faults of the old Russian tube. He claims that the disadvantages of the old tube are that because of its thickness and firmness it is thrown into a curve when introduced into the stomach and therefore does not reach the most dependent portion of this organ and that because of the fact that the eye of the tube is above the level of the stomach contents thorough evacuation can be accomplished so that its passage is a forcible one and produces gagging, vomiting and trauma. These facts he claims have been proven by Wagner and Dodd in which they observed with the fluoroscope the passage of the stomach tube. His modified tube he claims to have tried in many hundreds of cases in the past three years. Its tubing is soft and collapsible; its passage through the oral esophageal tract is not forcible but depends upon the weighted tip, and thus therefore minimizes trauma and discomfort to the patient. He describes two tubes to take the place of the old Russian tube. One consists of a collapsible pure gum rubber No. 25 French tubing 55 cm long and 6 x 8 mm in diameter to the end of which is attached with No. 18 thread gold plated lead tip weighing 40 gr. three-fourths inch long and the same diameter as the tube. Thus it is seen that the lumen of the tip neck and tube are all of the same diameter which makes possible the easy passage of the gastric contents. He claims that some patients do not swallow the tube easily and for these cases he uses a typhloleth No. 8 French catheter. This gives the tube more body and can be easily withdrawn when it passes beyond the pylorus. Because this technique requires some skill he has modified this slightly in that he uses a No. 20 French tube 46 mm in diameter at one end of which is attached a 1 mm piece which has two eyes. From a perforated neck of the aluminum piece is suspended (by means of a silk thread) a 1/8 inch thick gold thread running through the tubing a 30 gr gold plated lead ball about three-eighths inch long and No. 25 French

He claims that this modification enables the patient to swallow the tube easily.

The procedure of introducing the tube is described in three stages as follows: (1) With the patient in a recumbent position head on pillow mouth open the metallic tip is placed on the dorsum of the tongue and the patient instructed to swallow. When this is accomplished the patient is requested to assume an erect position. (2) The patient is instructed to breathe deeply and is cautioned to swallow and not to chew the tube. The other end of the tube being supported it is allowed to move slowly down to the 40 cm mark; this is accomplished by the action of gravity. The length of time in which this is accomplished is an important factor and greatly minimizes the discomfort of the patient. (3) When the 30 cm mark approaches the lip the patient is requested to lie on the right side with the right cheek on the pillow and the mouth open. In this position the pylorus is in the most dependent position and gravity will guide the tube to this end. This will be accomplished when from 10 to 15 cm more of the tube pass beyond the lips. The fact that the eyes of the tube being in the most dependent position insures a complete evacuation of stomach contents.

The advantages of this tube are summed up and the author states that its only contra indications are when rapid work is required or when the co-operation of the patient cannot be secured. By using this modified stomach tube there is no regurgitation and as the extraction of the gastric contents depends upon aspiration he advocates the use of his high and low vacuum glass bulb. This tube prevents soiling the bed clothes lessens the preparation and renders assistance unnecessary in extracting a test meal or in gastric lavage.

For performing gastric lavage Palefsky has devised an ingenious tube in connection with a double stopcock piece. Two glass graduated irrigation jars containing different solutions are connected to the tube and the stomach tube is also connected to the double cock piece. The fluids are then allowed to flow into the stomach tube and because of the absence of distress to the patient are allowed to remain in the stomach a long time then the flow is cut off by turning the stopcock and the stomach contents are allowed to flow into another jar by simply opening the lower stopcock. He claims that duodenal intubation should be performed only by skilled hands and thinks that each institution should have some one assigned to this special work. Not all patients are suitable for this examination; the cooperation of the patient being an essential factor. Old young, restless, and unintelligent patients make poor subjects.

There have been many tubes devised for this procedure. The requisites for a good tube should be that after its introduction the ball of the tube by means of gravity should reach the pylorus and it must be capable of passing through the horse

shoe shaped duodenum in a short space of time. The author describes the merits of the Gross and Finhorn tubes as well as his own. After several hundred examinations trying balls of different shapes, sizes and weights he has found that his tube is the best for service and speed. It consists of a No. 8 French pure rubber tube to one end of which is attached a perforated gold plated ball weighing 100 gr. The tube is marked off at 40, 50, 60 and 70 cm from ball. The procedure of passage is practically the same as previously described; it is best passed on an empty stomach and for this reason he usually performs this procedure at 9 A.M. The important points to bear in mind are the tube should not be introduced farther than 35 cm before the patient places himself on the right side for fear of its becoming kinked and doubled. The gastric contents should be aspirated immediately after introducing the tube to ascertain whether the tube has reached the pylorus. He does not agree with Rehfuess that the ball should be slotted instead of perforated.

In order to examine gastric and duodenal contents simultaneously the author has devised a non-communicative double channel tube, one channel leading to the duodenum and one to the stomach. The gastric end of each tube is attached to and communicates with a double bored aluminum piece weighing 5 gr. so when the duodenal piece finds its way into the duodenum in from 1 to 3 hours the aluminum piece is brought to the pylorus and thus by way of the double channel tube both contents are aspirated simultaneously. In order to ascertain whether the tube is in the duodenum the author provides for the examination of the aspirated fluid, inflation and osculation. The advantages of the examination of the duodenum are the functional activity of processes ascertained; the lesions in the gastro duodenal tract are localized; the progress of the tube from the pylorus to the jejunum and its contents; the alimentation of the duodenum; local treatment; and the suction of the common bile duct when not obstructed by stones.

The author has devised a method of visualization of the course and shape of the duodenum in connection with the roentgen rays. This is accomplished by injecting through the duodenal tube 10 ccm of strained bismuth in milk. The patient is then told to drink one glass of milk containing 100 oz of bismuth in suspension to differentiate the stomach and then an exposure is made with the abdomen to the film side of the plate and the patient in an erect position. He then shows a number of positives showing the normal curves of the stomach and the duodenum and others showing the course of the duodenum in ulcers demonstrating the sharp angles which would be seen if there were adhesions. He closes with a promise to relate further experiences on this most interesting subject of visualization of the duodenum in various lesions.

Goldsmith A. A.: Modern Gastrosocopy with Demonstration of the Sussmann Gastroscope
Ill. M. J. 914, 22: 169
 By Surg. Gynec. & Obst.

The author touches briefly on the development of gastrosocopy and gives a description of the Sussmann gastroscope.

Kussall in 1868 was the first to examine the stomach endoscopically. He used the direct vision instrument. Up to the present date the method has swung from direct to indirect vision instruments and back again.

A description is given of the Sussmann gastroscope which is of the indirect vision type. Its chief advantage is its flexibility on introduction.

In regard to its introduction in difficult cases the author recommends first passing the flexible part in a sitting posture and then making the inspection with the patient in the right lateral decubitus. Sussmann however is quoted as recommending the right lateral position through out but with the head well dropped down.

The author feels there is no great danger attending this procedure and states that the only discomfort felt is a slight rawness in the lower pharynx a day or two following its use.

P. ILLINOIS CHIA

Pirie A. H.: Indications Afforded by X Rays for and Against Operations on the Stomach and the Results Obtained from Such Operations.
Am. J. Roentgenol. 94: 337
 By Surg. Gynec. & Obst.

Surgery of the stomach has passed through three stages and is now entering a fourth. The first stage was that in which the abdomen was not opened and the patient died. In the second stage the abdomen was opened to find out what was wrong and frequently it was found that nothing could be done to cure the trouble. In the third stage often an exact diagnosis may be had by the use of the X rays and the fourth stage for which we are striving will be reached when the surgeon can determine by the X rays and other aids what the lesion is so that by rule of thumb he will know at once whether or not to operate.

Pirie has seen the following operative conditions diagnosed by the X rays: Chronic gastric ulcer, hour glass stomach, carcinoma pyloric stenosis (caused by duodenal ulcer or carcinoma), gastropyloric acute gastric ulcer tumors pressing on and distorting the stomach, stenosis of the cardiac opening, adhesions, foreign bodies in the stomach and normal stomachs. He cites a number of cases illustrative of these conditions.

Regarding pyloric obstruction he states that when barium remains more than six hours in the stomach it is usually due to such obstruction provided the patient does not eat or drink for six hours after the barium meal. As an exception he mentions the case of an eight hour residue in a girl whose stomach was found normal at operation. The residue was at-

tributed to the fact that the girl was neurasthenic and the excitement attending the examination probably delayed the normal action of the stomach.

Gastropyloric is frequently shown by the X rays. It is usually accompanied by poor health and a neurasthenic condition. In one such case which the author saw operated upon the stomach was removed two inches but the patient remained a neurasthenic after operation.

Pirie thinks the stomach should be empty all night and three times each day and that it requires these periods of rest. Thus the X rays may aid in recommending dietetic and medical treatment in cases for example where they show a patient's stomach half full four hours after a meal.

ALBERT MILLER

Tuohy E. L.: Lethal Contractures of the Stomach
Iowa M. J. 1914: 16
 By Surg. Gynec. & Obst.

Tuohy reports two cases of hour glass stomach with positive Wassermann reactions and improvement under anti-syphilitic treatment.

He reviews the literature and regards the evidence as inconclusive attributing the immediate cause to syphilis.

With a positive serum test and the visualized evidence of the roentgenogram the patient should be given the benefit of the doubt and receive anti-syphilitic treatment.

He agrees that on practical ground it must be admitted that syphilis does involve the stomach that the gummatous and ulcerating tissue can cause stricture and that hour glass stomach might theoretically occur but he points out that a specific treatment will only change tissues in their plastic cellular state of stage of necrosis and destruction.

If it could be positively stated that anti-syphilitic treatment thoroughly overcame the contraction, this would seem to be the most positive proof of their specificity.

Prolonged and more intensive study may prove the specificity of these lesions or a certain percentage of them.

D. L. D. & Co.

Verbruycke J. J. R.: Chronic Perforation of Peptic Ulcer
Surg. Gynec. & Obst. 94: 31, 370
 By Surg. Gynec. & Obst.

Verbruycke reports a case of chronic perforation of the greater curvature of the stomach by perigastric adhesions and a large perforation. Of the latter one had perforated two months before into the gastrohepatic omentum and the other had perforated three weeks before with formation of an abscess cavity between the duodenum pylorus gall bladder and liver.

Three were operated upon while the fourth a probable perforation received medical treatment. All four patients recovered.

Diagnosis was correctly made in three cases while in the fourth the perforation was discovered at opera-

tion for ulcer with hour glass contraction and obstruction. The radiograph was of considerable assistance in the diagnosis.

Verbruyck concludes that this result of ulcer must be more common than has been supposed.

Archibald E. Method of Treating Adherent Perforating Ulcer of the Posterior Wall and Lesser Curvature of the Stomach. *A S S J* 1914 ix 336 By S. G. C. J. nec & Olsf

The author reports a case of perforated gastric ulcer occurring in a woman 44 years of age. At operation a large indurated mass was found on the posterior wall of the stomach. Its upper limit involved the lesser curvature. It was situated 7 cm from the diaphragm on the lesser curvature and 9 cm from the pylorus. As it was densely adherent to the pancreas it was impossible to do a posterior gastro-enterostomy. Resection of the ulcer was not justifiable owing to the poor resistance of the patient; hence it was deemed advisable to exclude the ulcer by means of a fascial ligature.

A fascial strip taken from the anterior sheath of the rectus was passed by means of a long curved forceps through a slit in the great omentum close to the greater curvature behind the stomach and out through an opening in the lesser omentum close to the lesser curvature about 1 cm above the upper limit of the inflammatory mass. On tightening the ligature the stomach was found to be tied off about its mid line forming an artificial hour glass stomach. An anterior gastro-enterostomy was performed in the cardiac half of the stomach at a point on the jejunum about twelve inches from the duodenojejunal junction. The stomach was about two inches above the greater curvature and about a third of the way from the greater to the lesser curvature. The abdomen was closed without drainage.

The patient improved for about three weeks when she again complained of abdominal discomfort. Three weeks later blood was discovered in the vomitus and the stools were tarry. A week later the abdomen was opened again and extensive adhesions found between the stomach and jejunal loop together with the gastrocolic and gastrohepatic omentum to the anterior abdominal wall. After these were separated the anastomosis was found to be patent and the band of fascia was apparently holding but it was impossible to tell whether or not the ulcer had burrowed its way into the proximal part of the stomach. A second gastro-enterostomy was done near the greater curvature in order to relieve pain or omitting and the patient's condition steadily became worse and she died two weeks later. At the post-mortem examination there was no evidence of peritonitis nor was there any slit in the duodenum. The ulcer was of large size almost round, had very thickened walls and over its floor coursed a large vessel in which was found an opening large enough to admit a small probe. The fascial ligature had yielded to the extent of admitting the tips of the three fingers in the opening joining the cardia with

the pyloric portions. The ulcer measured 5 cm in both diameters and its bed was formed by the surface of the pancreas.

Although the method in the instance cited failed to save the patient the author thinks that the method itself was not to blame. The presence of the bleeding ulcer and the giving way of the fascial ligature combined to defeat the ultimate effect but the immediate result of the operation and the improvement for the first three weeks were decidedly encouraging. It seems justifiable to propose the operation for all such ulcers of the posterior wall and lesser curvature which are mechanically difficult to excise and in cases in which excision seems at all risky. Particularly is this the case when the ulcer is a perforating one when there is much inflammatory tissue around it when the patient is much reduced from hemorrhages and chronic starvation and when the ulcer is situated somewhat inaccessibly under the left floating rib.

EDWARD L. CORNELL

Friedman J. C. and Hamburger W. W. The Role of the Pylorus in the Etiology and Treatment of Gastric Ulcer. *Ill no 5 W J* 1914 xxvi 166 By S. G. C. J. nec & Olsf

The authors discuss the part played by the pylorus in chronic gastric ulcer cases and give some suggestions for treatment.

Acute ulcers are usually multiple and are found in any part of the stomach. They heal easily and are probably due to infective processes in other parts of the body as cholecystitis and appendicitis.

Chronic ulcers occur singly most frequently are situated in the pyloric region and do not heal readily. Their chief cause so the authors believe is pylorospasm induced by irritation of the ulcer base. This gives rise to retention of stomach contents, hyperacidity and increased peristalsis which is most marked in the pyloric region. An acute ulcer in this region becomes either a callous chronic one due to continued irritation or a peptic ulcer due to hyperacidity and self-digestion.

The late pain of Mönihan considered diagnostic of duodenal ulcer and called by the French the pyloric syndrome are caused according to Hertz by the increased peristalsis and pylorospasm and a consequent rise of intragastric pressure following which any ulcer of the stomach if sufficiently irritated may cause these pains.

A second class of pain are the early pain due to adhesions of the pyloric region.

An outline of treatment is given consisting of the use of alkalies, milk and cream of diet, atropine in small doses and rest in bed. Syntrophin in half grain doses and the gastro-intestinal diet of Adolph Schmitz consisting of very finely divided meat and vegetables is recommended during the latter part of the illness. Syntrophic stomachal agents are used in cases where there is considerable stasis.

Surgery is advised in cases showing no improvement after considerable medical treatment. The

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The author feels there is no great danger attending this procedure and states that the only discomfort felt is a slight rawness in the lower pharynx for a day or two following its use.

PHILIP M. CHA

Pirie A. J. Indications Afforded by X Rays for and Against Operations on the Stomach and the Results Obtained from Such Operations
Am J Roentg nol 9 4 337

By S. G. G. & Obit

Stage 3 of the stomach is passed through three stages and is now entering on the fourth. The first stage was that in which the abdomen was not opened and the patient died. In the second stage the abdomen was opened to find out what was wrong and frequently it was found that nothing could be done to cure the trouble. In the third stage often exact diagnosis may be had by the use of the X rays and the fourth stage of which we are trying to be satisfied when the surgeon and dietitian by the X ray and other aids what the lesion is so that by rule of thumb he will know at once whether or not to operate.

Pirie has seen thirty-eight per cent of conditions diagnosed by the X rays (chronic gastritis, ulcer, hour glass stomach, hernia, pyloric stenosis, carcinoma, acute gastric ulcer, tumors pressing on and distorting the stomach, stenosis of the cardia, open gastric adhesions for gall bladder, the stomach and normal stomach). He states in number of cases illustrative of these conditions.

Regarding pyloric obstruction he states that with barium meal more than a half of the time the meal is usually delayed to such extent provided the patient does not sit down for hours after the barium meal. As an exception to the rule the case of an eight hour case of gastric obstruction was found normal to operation. The result was a

tributed to the fact that the girl was neurasthenic and the excitement attending the examination probably delayed the normal action of the stomach.

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ALBERT MULLER

Tuohy E. L. Luetic Contractures of the Stomach.
J Am M J 19 4 xvi 1016

By S. G. G. & Obit

Tuohy reports two cases of hour glass stomach with positive Wassermann reactions and improvement under antisiphilitic treatment.

He reviews the literature and regards the evidence as inconclusive in attributing the immediate cause to syphilis.

With a positive serum test and the visualized evidence of the roentgenogram the patient should be given the benefit of the doubt and receive anti-siphilitic treatment.

He agrees that on a practical ground it must be a limit that syphilis lies in olive the at such that the gummatous and ulcerating tissue can cause scarring and shrinking and that the hour glass stomach might theoretically occur but he points out that antisiphilitic treatment will only change tissues in their plastic cellular state or stage of necrosis and destruction.

He concludes he positively stated that antisiphilitic treatment thoroughly became the cicatrization this would seem to be the most positive proof of the specific nature.

Prolonged and more intensive therapy may prove the specific nature of these lesions or a certain percentage of them.

J. I. D. VAN

Verbruyck Jr J. R. Chronic Perforation of Peptic Ulcer
J Am M J 19 4 xvi 37

By S. G. G. & Obit

Verbruyck reports four cases of chronic perforation of the stomach of the occult type sealed up by peritonitis (adhesion and being) after perforation. Of the last he had performed two months before into the gastric hepatic omentum. The other had performed three weeks before with the formation of an abscess between the duodenum, pylorus, gall bladder and liver.

The first was operated upon while the fourth a perforation of the stomach was discovered at operation.

Diagnosis was correctly made in three while in the fourth the perforation was discovered at operation.

4 Some toxic or irritative factor usually within the abdomen and most frequently associated with the colon or appendix is found in a large proportion of cases of chronic duodenal ulcer

5 Probably many acute duodenal ulcers are primarily follicular ulcers from the breaking down of inflamed lymph follicles

6 Whatever may be the primary cause of a gastric or duodenal ulcer spasm of the muscular coats of the viscus is an important factor in determining its chronicity

7 The situation of the opposing ulcers on the anterior and posterior walls of the duodenum on the boundary zone of the areas supplied by the anterior and posterior branches of the supraduodenal artery suggests that a common vascular deficiency rather than a contact infection accounts for the peculiar tendency to chronicity and recurrence

8 This vascular deficiency may be due to arteriosclerosis but probably it is usually due to spasm of the muscular coats of the duodenum induced by a slight local anemia consequent to strain on the supraduodenal vessels this muscular spasm being favored by the increased vagotonus and the irritable condition of the autonomic nervous system which exists in such cases

9 The sex incidence of duodenal ulcer is to be explained on anatomical grounds The relatively high pylorus and short fixed duodenum of the male allow of its vascular supporting ligament the hepatoduodenal ligament being exposed to strain which in the female with her relatively low pylorus and lax duodenum is borne by the left border of the gastrophrenic omentum and lesser curvature of the stomach

10 The fixity of the male duodenum further predisposes to linking at the first duodenal angle and thus to an unduly long exposure of its first part to the acid chyme from the stomach undiluted by bile or pancreatic juice the regurgitation of which is impeded

BARNES BROOKS

Draper J W Studies in Intestinal Obstructions with a Report of Feeding Heterologous Junctional and Ileac Cells to a Human Being *J Am Med A* 9 4 Jan 79 By Surg Gynec & Obst

Draper writes of the cause of death in intestinal obstruction He believes the evidence as to the origin of the death producing toxin points to an autotoxin from the intestinal epithelial cell rather than to the presence of bacteria

Experiments carried out to support the hypothesis of water starvation as the cause of death showed the water loss of tissue from starvation from the administration of pilocarpine and from duodenal obstruction was practically the same notwithstanding the fact that the dogs given pilocarpine were killed long before symptoms of disability were present

Microscopic examination of the intestinal tract showed such marked capillary dilatation at its beginning and end as to make it probable that the

toxins of intestinal obstruction are eliminated both from the stomach and the colon and this furnishes a working hypothesis on which to explain the result of feeding to duodenally obstructed animals epithelial cells from the ileum and the duodenum of other animals i e that in some manner these cells render harmless the excreted toxins

The average length of life of duodenally obstructed animals fed epithelial cells from the duodenum and ileum of other dogs was almost twice as long as the controls which were not fed at all and also of a third set of dogs which were fed on cells from other organs—the liver spleen kidney pancreas, and muscles

D I. DES AND

Behan R J Functional Ileus *Internat M J* 914
xx 95 By Surg Gynec & Obst

Behan defines ileus as any more or less complete obstruction which occurs between the cardiac opening of the esophagus and the sigmoid flexure of the colon This obstruction may be either mechanical or functional He further divides the mechanical into intra mter and extra mural changes which occur in the intestinal walls and cause an ileus by pressure on the walls Under this classification we find as factors causing intramural ileus foreign bodies gall stones enteroliths polyps tubercular and syphilitic cicatrices intermural ileus caused by local inflammatory swelling of intestinal wall and of growths and extramural ileus caused by strictures resulting from adhesions kinks intussusceptions and pressure from neighboring new growths

Functional ileus is caused by any condition either local or reflex which interferes with intestinal mobility He places inflammation at the head as a local factor although the following must also be borne in mind hemorrhage into the intestines purpura hemorrhagica thrombosis of vena-mesenterica trauma irritation due to some poisons, notably lead hardened feces foreign bodies and worms In true reflex functional ileus the paralysis or spasm due to nerve derangement may be either peripheral or central The peripheral irritation is either local or general the local irritants act upon Auerbach's centers in the intestinal walls and are the products of drugs or irritating substances in the intestinal lumen The author cites Biernath's case in which autopsy revealed a tight stricture 6 cm above the anus and no cell infiltration present to illustrate the result of constant contractions of certain portions of the bowel

The spastic contractions of the bowel are the result of stimulation of the vagus the nerves of Auerbach's plexus and the nervus pelvicius or factors inhibiting the sympathetic nerve They present no organic changes in the bowel and this type has been found in Addison's disease pressure on the splanchnics and paralysis of the sympathetic after operations for myomata presence of wound ulcerations of intestinal wounds and from retardation of nutrition due to tuberculosis

authors do not consider simple gastro-enterostomy as sufficient but advise excision of the ulcer or some form of pyloric exclusion.

The article concludes with two discussions bearing on the above statements.

PHILLIPS M CHASE

Carman R D: Some Essential Points in the Radiologic Diagnosis of Gastric Cancer and Gastric Ulcer. *St P J* 94: 333. By Srg Gynec & Obst.

Carman thinks that the tremendous value of the X-ray in the diagnosis of lesions of the digestive tract is not generally appreciated and notes that in the roentgen laboratory of the Mayo Clinic, cancer has been diagnosed in over 90 per cent of the cases, gastric ulcer in over 80 per cent and duodenal ulcer in from 50 to 60 per cent. His technique may be defined as the combined fluoroscopic and roentgenographic examination with the double opaque meal. There is no single standard normal radiologic stomach. The average normal stomach will hold 4 fluid ounces of ingesta without discomfort; its contour is unbroken save by peristaltic waves and certain constant incisures; its walls are flexible; its peristalsis is neither excessive nor absent; it is more or less mobile between its points of suspension; and it will clear itself of its contents within six hours.

He lists the radiologic signs of gastric carcinoma in order of importance as follows:

- 1 Filling defects
- 2 Altered pyloric function (a) gaping of the pylorus and (b) obstruction of the pylorus
- 3 Advanced position of the six-hour meal
- 4 Absence of peristalsis from involved areas of the stomach
- 5 Diminished mobility and flexibility
- 6 Diminished size of the stomach
- 7 Antiperistalsis

The positive roentgenologic diagnosis of gastric ulcer can only be based upon the presence of one of two signs: viz the niche or the cessary pocket. Other signs which are corroborative but not diagnostic of themselves are: (1) the incisura (2) hour glass stomach (3) residue in the stomach after six hours, (4) lessened mobility (5) localized pressure tender point (6) delayed opening of the pylorus, (7) acute fish hook form of the stomach with displacement to the left and down (8) gastric hypotonus and (9) antiperistalsis.

Georg A. W. and Gerber I: The Roentgen Diagnosis of Duodenal Ulcer. *Srg Gynec & Obst* 94: 393. By Srg Gynec & Obst.

The authors compare the two methods of roentgen study of duodenal ulcer that have gradually developed: viz the direct and indirect method of diagnosis. The direct method generally used by European observers based upon consideration of the groups of signs usually of a focal nature which have been found associated with organic lesions. As an example of this indirect

study the authors review critically a recent paper by Carman who has used this method of diagnosis very largely. They come to the conclusion that his findings do not warrant dependence upon this method as a very positive one in the roentgen diagnosis of duodenal ulcer.

The direct method of which the writers are proponents, disregards the above evidence entirely and merely determines the normal or pathological condition of the duodenum. This can be done only with careful attention to technique. From this strict point of view fluoroscopy is very unsatisfactory. Repeated plates are much more valuable especially the serial method as first suggested by Cole. They must be taken in the prone standing and especially in the lateral position and from these plates the anatomical condition of the duodenum is determined.

The writers claim that a normal duodenum can always be shown if proper technique and proper bismuth mixtures are used. The demonstration of a normal duodenum even on a single plate rules out the presence of indurated or surgical ulcer.

Duodenal ulcers how a characteristic deformity due to connective tissue with sometimes a stream of bismuth entering the actual mucosal defect.

Of 8 cases operated upon for duodenal ulcer an exact diagnosis of the size and site of the ulcer was made in 79 cases. In 3 cases duodenal ulcer was reported but there were minor errors of diagnosis. In one case there was a complete failure of diagnosis.

Of approximately 150 operated cases in which a negative roentgen diagnosis was made in no case was a duodenal ulcer found. A duodenal ulcer was found in one autopsied case so which the previous report had been negative.

The authors feel that the results of the direct method are far superior to those of the indirect method even when the latter is used by the most expert operators. They believe that the actual demonstration of the lesion itself is the only important factor in the roentgen diagnosis of indurated duodenal ulcer.

Wilkie D P D: Observations on the Pathology and Etiology of Duodenal Ulcer. *Ed St P J* 94: 396. By Srg Gynec & Obst.

The author bases his report on the study of 400 post mortem examinations. He discusses the incidence, etiology, pathology and diagnosis of duodenal ulcer. The paper is well summarized in a list of conclusions which are as follows:

Duodenal ulcer a malady of frequent occurrence and one which often passes unrecognized.

2 Although as a rule readily diagnosed a chronic duodenal ulcer may occasionally exist and give rise to none of the characteristic symptoms, sometimes the first evidence of such a silent ulcer being its perforation.

3 Silent duodenal ulcers are met with most frequently in the subject of arteriosclerosis and are found for the most part on the posterior wall of the duodenum.

4 Some toxic or irritative factor usually within the abdomen and most frequently associated with the colon or appendix is found in a large proportion of cases of chronic duodenal ulcer

5 Probably many acute duodenal ulcers are primarily follicular ulcers from the breaking down of inflamed lymph follicles

6 Whatever may be the primary cause of a gastric or duodenal ulcer spasm of the muscular coats of the viscus is an important factor in determining its chronicity

7 The situation of the opposing ulcers on the anterior and posterior walls of the duodenum on the boundary zone of the areas supplied by the anterior and posterior branches of the supraduodenal artery suggests that a common vascular deficiency rather than a contact infection accounts for the peculiar tendency to chronicity and recurrence

8 This vascular deficiency may be due to arteriosclerosis but probably it is usually due to spasm of the muscular coats of the duodenum induced by a slight local anemia consequent to strain on the supraduodenal vessels this muscular spasm being favored by the increased vagotonus and the irritable condition of the autonomic nervous system which exists in such cases

9 The sex incidence of duodenal ulcer is to be explained on anatomical grounds The relatively high pylorus and short fixed duodenum of the male allows of its vascular supporting ligament the hepatoduodenal ligament being exposed to strain which in the female with her relatively low pylorus and lax duodenum is borne by the left border of the gastrophrenic omentum and lesser curvature of the stomach

10 The fixity of the male duodenum further predisposes to linking at the first duodenal angle and thus to an unduly long exposure of its first part to the acid chyme from the stomach undiluted by bile or pancreatic juice the regurgitation of which is impeded

BARNEY BROOKS

Draper J W Studies in Intestinal Obstructions, with a Report of Feeding Heterologous Jejunal and Ileal Cells to a Human Being J Am M A 9 4 Jan 19 By Surg Gynec & Obst

Draper writes of the cause of death in intestinal obstruction He believes the evidence as to the origin of the death producing toxin points to an autotoxin from the intestinal epithelial cell rather than to the presence of bacteria

Experiments carried out to support the hypothesis of water starvation as the cause of death showed the water loss of tissues from starvation from the administration of pilocarpine and from duodenal obstruction was practically the same notwithstanding the fact that the dogs given pilocarpine were killed long before symptoms of distubility were present

Macroscopic examination of the intestinal tract showed such marked capillary dilatation at its beginning and end as to make it probable that the

toxins of intestinal obstruction are eliminated both from the stomach and the colon and this furnishes a working hypothesis on which to explain the result of feeding to duodenally obstructed animals epithelial cells from the ileum and the duodenum of other animals i e that in some manner these cells render harmless the excreted toxins

The average length of life of duodenally obstructed animals fed epithelial cells from the duodenum and ileum of other dogs was almost twice as long as the controls which were not fed at all and also of a third set of dogs which were fed on cells from other organs—the liver spleen kidney pancreas and muscles

D L DEX ARD

Behan R J Functional Ileus Intest M J 914 11 965 By Surg Gynec & Obst

Behan defines ileus as any more or less complete obstruction which occurs between the cardiac opening of the oesophagus and the sigmoid flexure of the colon This obstruction may be either mechanical or functional He further divides the mechanical into intra inter and extra mural changes which occur in the intestinal walls and cause an ileus by pressure on the walls Under this classification we find a factors causing intramural ileus foreign bodies gall stones enteroliths polyp tubercular and syphilitic cicatrices intermural ileus caused by local inflammatory swelling of intestinal wall and of growths and extramural ileus caused by strictures resulting from adhesions kinks intussusceptions and pressure from neighboring new growths

Functional ileus is caused by any condition either local or reflex which interferes with intestinal mobility He places inflammation at the head as a local factor although the following must also be borne in mind hemorrhage into the intestines purpura hemorrhagica thrombosis of venae mesentericae trauma irritation due to some poisons notably lead hardened faeces foreign bodies and worms In true reflex functional ileus the paralysis or spasm due to nerve derangement may be either peripheral or central The peripheral irritation is either local or general the local irritants act upon Auerbach's centers in the intestinal walls and are the products of drugs or irritating substances in the intestinal lumen The author cites Biernath's case in which autopsy revealed a tight stricture 26 cm above the anus and no cell infiltration present to illustrate the result of constant contractions of certain portions of the bowel

The spastic contractions of the bowel are the result of stimulation of the vagus the nerves of Auerbach's plexus and the nervus pelvici, or of factors stimulating the sympathetic nerve They present no organic changes in the bowel and this type has been found in Addison's disease pressure on the splanchnics and paralysis of the sympathetic after operations for myomatous presence of wounds ulcerations of intestinal wounds and from retardation of nutrition due to tuberculosis

anatomical derangements which are diagnostic of splachnoptosis. Although only two of these abnormalities are usually sufficient to diagnose this condition he claims ptoed colon is seldom sought for and that its diagnosis is comparatively easy. Whether stasis results from a ptoed colon either due to kinks at its hepatic or splenic flexures or to the lowering of its transverse portion is still a matter of some discussion. Hertz supported by a large majority of roentgenologists claims that in cases of ptoed colon the ascending colon and caecum fill completely and that in response to a stimulus which only occurs two or three times a day powerful peristaltic waves occur and the contents are shot through the transverse colon to the remaining bowel until defecation occurs. The author lays great stress upon the mucus colitis which these patients suffer from and suggests measures to restore the colon to its normal condition and improve this colitis. The methods of physical diagnosis are greatly aided by inflation of the colon and percussion. A long rectal tube and a bulb through which air is blown are used. This tube he claims is best left protruding two feet so as to be brought forward and readily used when the patient is in the erect position. Variations of the transverse colon line from four to six inches are encountered in the horizontal and upright positions.

As a rule the outline of the colon cannot be seen normally but with gradual inflation the transverse portion can be made out. The caecum also can be recognized as an indefinite tumor in the right iliac fossa. According to Sailer the caecum is palpable in 20 per cent of cases with inflation this percentage is greatly increased.

The colon is seldom be outlined by simple percussion but in conjunction with auscultation on a correct conclusion can often be arrived at. First the bowel will be most readily distended with air and the bell of the stethoscope placed over the caecum then the stethoscope is gently percussed over and upward until a distinct change in the note will be heard. This will outline the left limit of the transverse colon. By using the percussion finger in different parts the limits of outline of the transverse colon can be traced.

By placing the stethoscope over the pub and pumping air through the bulb with each squeeze the stethoscope is moved when the transverse colon is reached a distinct change in the note will be heard. Some trouble will be encountered at the flexures but the caecum will be easily recognized and its limit ascertained.

Goldschmidt K. Results of Radical Operations for Cancer of the Rectum with Reference to Continence. (The title is rather lengthy.)

In Hochenegg's clinic where the author's material was secured the sphincter was preserved in 106

cases which were operated upon for cancer of the rectum within the past ten years. In 93 cases the union of the two ends was undertaken 73 times by circular suture 21 times by Hochenegg's method of drawing through and 4 times by invagination. This shows that even in the clinic where it originated Hochenegg's method is used much less frequently than circular suture. This is explained by Hochenegg who says that his method is to be used only when a sufficiently well nourished piece of intestine can be brought outside the outlet without any tension.

The immediate results of the different methods are as follows. There was primary healing with the circular suture in 20 per cent of the cases with Hochenegg's method in 38 per cent with invagination in 25 per cent. When dismissed 21.9 per cent of the cases with circular suture were completely continent 19.2 per cent incompletely continent 49.3 per cent incontinent with Hochenegg's method 38 per cent were completely continent 19 per cent incompletely continent and 33.1 per cent incontinent. Circular suture gave 41 per cent of permanent recoveries Hochenegg's method 52.4 per cent with 37 per cent of complete continence for the former and 48 per cent for the latter. The results therefore are better in Hochenegg's method with reference to mortality continence and permanent recovery.

Kotter's plastic after operation was performed in 10 cases with complete continence in 70 per cent. The author explains the causes of the failures in the various methods. In circular suture a relatively greater percentage of formation of spurs was observed but a relatively smaller percentage of stenoses.

LIVER, PANCREAS, AND SPLEEN

Fowler R. Splenotomy for Abscess of the Spleen. *Lancet* 1904, 138.

The author reports a case of splenic abscess occurring in a young Italian woman. Her illness for which no apparent cause could be assigned began 20 days previous to her examination by the author. She was troubled with a feeling of fullness after meals but was relieved by vomiting. Her temperature was 101.1 pulse 140 respiration 40. She was anemic and poorly nourished. A complete examination proved negative except for an enlarged spleen extending beneath the border of the ribs at which point there was a tender mass the size of an orange. Urinalysis was negative.

The tender orange shaped mass was incised through an abdominal incision and an extensive pleural abscess found. The spleen was adherent to the abdominal wall and a large quantity of foul smelling pus escaped. A counteropening was made in the loin at the lowest part of the abscess and a glass tube inserted. For some days there was considerable improvement in the woman but in a few days there was a change in the character of the discharge.

and it became grayish in color. The leucocytes gradually decreased in number. From time to time for several weeks large sloughs of spleen tissue were discharged but finally the wound closed and the patient fully recovered. I am J. C. R. L.

Hesse E.: Hemostasis in Hemorrhage from Parenchymatous Organs (Zur Frage d. Hämorrhagie bei parenchymatösen Organen). Deutscher Chirurgicalischer Kongress. 1914. 94. By Zeitschrift für Chirurgie. Greifswald.

Hesse discusses the value of free transplantation of omentum for the purpose of hemostasis from parenchymatous organs but gives his conclusions on extensive material from the Obuchow Hospital in St. Petersburg. From the experience of this hospital the method gives excellent results in surgery of trauma of the liver and spleen.

Among 3 cases of liver injury transplanted to the omentum was used 22 times without a single failure. Of these 22 cases 5 died but all of these had simultaneous injuries of other organs—pericardium, stomach, intestine and lung. Four of these patients were pulseless before the operation and died soon after. In one case there was laceration of the pancreas. It was a gunshot wound perforating the liver and injuring the stomach, pancreas and right kidney. The purpose of the omentum was done through the canal through which the

bullet had passed and into the left lobe of the liver and also the abundant hemorrhage was stopped. On the twenty-first day death resulted from necrosis of the pancreas. Autopsy showed that the omentum had accomplished its object. There were no signs of secondary hemorrhage and the omentum was firmly adherent to the liver throughout the whole course of the bullet.

Hesse reports a second case of rupture of the liver of the arm with the whole hand could be pulled into the rupture. Almost the whole omentum was resected and sutured into the cavity. Recovery was uneventful.

The method has also given brilliant results in traumatic surgery of the spleen. Among 9 stab wounds of the spleen 3 were treated by transplantation of omentum. All recovered.

On operation for hemorrhage from parenchymatous organs the omentum can be taken from the abdomen and used immediately without any special preparation. Because of its simplicity the method has gained its place over the absorbable artificial tampon recommended by Teger and Wohlgenuth. In hemorrhage from the skull and long bones free transplantation has been of great service. The free transplantation of tissues containing thromboplastase such as omentum and muscle is the method of choice for hemorrhage from parenchymatous organs.

SURGERY OF THE EXTREMITIES

DISEASES OF THE BONES, JOINTS, MUSCLES, TENDONS, CONDITIONS COMMONLY FOUND IN THE EXTREMITIES

Waugh G. E.: The Use of Tuberculin in Surgical Tuberculosis. American Medical Journal. 1914. 22. 567. By St. Louis. Gynec. & Obst.

Inasmuch as there is no scientific test for tuberculosis, and as there is a large percentage of error in the differential diagnosis from pyogenic infection in spite of careful study of the value of tuberculin, it is difficult to estimate its value and an enormous amount of material and clinical evidence has now been brought out of a definite dosage as curative for various types. Many claims have been made and investigation has proved that the diagnosis should be questioned before the cure is accepted.

After using tuberculin for five years in all types of tuberculosis first using Koch's new tuberculin and later Wright's bacillary emulsion and often combined addition with varying dosage the author has abandoned the use of tuberculin in surgical tuberculosis and relies on the following.

Case J. T.: The Roentgenology of Chronic Joint Disease. Illinois Medical Journal. 1914. 22. 55. By St. Louis. Gynec. & Obst.

Roentgenology is now an indispensable aid in the diagnosis and prognosis of chronic joint lesions.

especially in deep seated joints such as the hip and shoulder. It does not overcome all difficulties but with intelligent use is more intelligent and mistakes few.

A roentgenographic examination of patients fifty years of age shows the contour of the vertebral bodies run out to the superior or inferior glenoid protuberance. However, if these protuberances are larger or reformed in a younger person these findings must be considered as chronic arthritis or incipient arthritis deformans.

Arthritis deformans is how round ball like osteoarthrosis and round the joint sharp demarcation of the bones of the joint with formation of osteophytes with lateral deposits on the borders of the capsule and outside the joint.

In pseudogout the vertebral bodies are asymmetrical. Hypertrophic changes occur in the processes of the bodies and the intervertebral transverse processes. In advanced spondylitis bridge formation and adhesions of the form of vertebral bodies and finally complete ankylosis are characteristic findings.

Arthritis urticae is characterized by deposits of urates in the tissue of the joint primarily in the ligaments but in the articular cartilage. In the hand these occur very small osteomata on the lateral borders of the proximal phalanges.

Among the first changes recognizable on the roentgenogram of a tuberculous joint are increased transparency to the rays and increase in fluid in the synovial sacs. Increased transparency with decreased accuracy of outline and bone detail are very indicative of tuberculosis. This is especially true of the carpal and tarsal. In later stages ulceration of the joint surface with irregularity of articular surface and enlargement of articular space may be seen. Still later stages show areas of tuberculous necrosis. Healed tuberculosis in joints shows a thickening in the cortex of the bone. In active cases there is want of contrast and detail.

Redard says clear blotches at the level of the epiphysis increase in circumference of the bone in the epiphyseal region. Osteophytes and irregularity of certain portions of the bones are characteristic of syphilis.

In synchondrositis the hand shows thickening of the pulp of the distal extremity of the fingers. The last phalanx is hypertrophic and atrophic in structure. All the bones of the hand are atrophic.

Gonorrheal arthritis shows the same bone changes seen in other forms of infectious arthritis. Traumatic arthritis shows atrophic or hypertrophic changes or both. R. O. RITTER

Ashausen G. New Study of the Role of Necrosis of Cartilage in the Pathogenesis of Arthritis Deformans (Neue Untersuchung über die Rolle der Knorpelnecrose der pathogene der Arthritis deformans). A. A. f. kl. Ch. 94, 1, 301. By Zentralbl. f. d. ges. Ch. 1, Crengebl.

After long observation of dogs with superficial or multiple circumscribed necrosis of cartilage the author found pictures that were identical clinically and in microscopical anatomy with those of human arthritis deformans. Besides the local symptoms of subchondral dissection and cellular substitution with wearing out of the cartilage and formation of fibrous cartilage there was formation of villi and marginal osteophytes. As a result of the injury to the cartilage there were at points of mechanical impact braded places caused by the decreased resistance. The unevenness of the joint surface caused in this way led to secondary changes in the opposed joint surface which followed the same laws and by wearing down led to abraded places. Histology of human arthritis deformans have shown similar extensive and scattered cartilage necroses with cellular substitution subchondral dissection abrasion and furrows. So he concludes that the same relation may be assumed between the individual phenomena in human arthritis deformans as in animal experiments. L. VAN SEN LIZKE

Vegas M. H.: Hemophilus and Hemophilus Arthritis. V. I. H. J. 94, 4, 549. By Surg. Gynec. & Obst.

After reporting a case of hemophilia Vegas mentions some of the early writings on the subject and cites several types of cases, one seen by Charv

and Speroni in which a tumor the size of a child's head occupied the iliac fossa adhering to the bone. Another observed by Kautz of Vienna showed submucous hamatomata which almost obliterated the intestinal lumen.

Relative to joint involvement in hemophilia one of the great dangers in operating is the mistaking of a hemophilic arthritis with effusion for a tuberculous arthritis. Therefore it is necessary to secure a perfect history to remember that it occurs in young anæmic individuals that it comes on spontaneously that it is painless and that there is a restriction of movement with a tendency to grow worse.

The condition of a joint after being changed by hemophilic arthritis shows emptiness of the joint, erosion of the cartilages and thickening of the edges of the joint.

The use of the X-ray is very important in securing a diagnosis.

The knee, hip, elbow, finger, wrist and ankle joints are the ones usually involved and in the order named.

The prognosis of the disease varies. The acute and subacute forms usually become cured and seldom leave any deformity.

The chronic forms are sure to produce deformity. The treatment of hemophilic arthritis is local and general.

Cold compresses, uniform pressure and correct posture are important factors in the local treatment in order that deformity may be prevented.

In the general treatment many remedies have been used but with no success. Peptone recommended by Witte has been used with good results.

The best remedy, however, for successful results is the injection of fresh rabbit serum, 25 ccm intravenously or 30 ccm subcutaneously — the dose may be repeated in two days.

In regard to operating on a hemophilic, if necessary it can be done with ultimate success by first preparing the patient by several injections of fresh rabbit serum. JOHN H. SWAN

Davis, D. J.: The Etiology and Pathogenesis of Rheumatoid Arthritis. Ill. 94, 1, 94. By Surg. Gynec. & Obst.

The author does not discuss the common groups of trophathes whose etiology and nature have been fairly well determined but that large group of chronic joint disorders which for a long time have been considered as probably infectious. These disorders are commonly called arthritis deformans.

An infection usually with streptococci very often following tonsillitis, pharyngitis, an ulcerated tooth, middle ear or sinus infection plays a significant rôle in the etiology of these joint disorders.

Wollenberg maintains that sclerosis and vascular obstruction, partial or complete, is always found and is in fact the direct cause of the changes in arthritis deformans. There is no doubt of its importance in certain cases, particularly in old people. In

shorter than the circumference of the bone the fringed end to be used to tie the rug about the bone as a splint. The end when tightly tied straiten the rug about the bone holds it firmly in place. The idea has been tested in a limited number of experiments on dogs with encouraging results. The splints so far have been made of raw rough German catgut No. 4 and No. 5 wet during the process of weaving so as to soften it making it possible to obtain a very close weave. The rugs are so woven that the length can easily be reduced. This is of great practical importance and is accomplished by having the strand that runs the long way of the rug—the warp—consist of separate fibers while the cross fibers—the wool—are made of one long continuous strand of gut which is altered to lay on over and under the long parallel strand. To shorten the rug it is only necessary to cut one end of the cross-strand free unravel a sufficient amount and then tie the free ends again.

So far the catgut rugs have been utilized by the Bartlett iodine method only. In experiments still to be carried out bromine catgut kangaroo tendon etc. will be tried. No trace of the plant has been seen at the end of three weeks and no inflammatory reaction seems to be produced by the presence or absorption of the plant except in few cases where a serious oedema occurred causing shortly however and healing *per primam*.

Moorhead J. The Transfixion Treatment of Femoral Fractures. *Am J Surg* 94: 1-34.
By S. G. C. Nec & Obst.

Moorhead J. discusses the transfixion treatment of femoral fractures in which the ordinary method is inapplicable or inefficient in—

1. Oblique spiral or transverse fractures having considerable laxity from displacement of fragments in which traction on the soft parts is unlikely to produce adequate fixation.

2. Compound comminuted or comminuted fractures in which the parts do not maintain satisfactory union in which traction on the soft parts is unlikely to produce adequate fixation.

3. Relatively long or otherwise uncontrollable fractures in which the gel or firm in the humeral shaft may be dangerous.

4. Old fractures having no union in which recalcification is mad possible by transfixion.

5. Certain fracture dislocations in which the fragments are displaced.

6. To obtain preliminary alignment prior to plastering or other operative procedure.

The essential aim of the method is to obtain traction by driving a metal pin into the distal fragment allowing enough of the metal to protrude on either side of the skin so that traction cords can be attached to a pulley and weights or rings at the foot of the bed may be fastened to it the limb being supported on some form of padded double inclined plane. The drill is removed at the end of two or four weeks then

a splint of Paris plaster applied and worn until the bone is sufficiently firm to allow the patient to be out of bed. In some fractures very close to the knee joint as in the supracondylar variety transfixion can be made through the head of the femur.

It is an intermediate measure between the closed or non-operative methods such as the various extension and the open or operative radical methods as plating or wiring. It is less hazardous and perhaps more generally applicable than plating because (1) the procedure is simple (2) the scene of operation is at a distance from the traumatized area (3) no foreign body is left in the tissues (4) the parts are always exposed during healing (5) joint stiffness is minimized (6) atrophy joint stiffness and decubiti can be controlled.

The author does not recommend this treatment where ordinary forms of extension suffice or when plating or transfixion seem more likely to be efficacious either because of the nature of the injury or the availability of a surgeon skilled in that work.

He reports 7 cases in which there was no shortening or deformity and he thinks that the method should find a place in the treatment of certain fractures of the femur.
He. Ky. J. Med. Den. Surg.

Walsh P. R. von Operative Replacement of Old Irreducible Luxations and Luxation Fractures of the Elbow-Joint (Liberation of the Elbow-Joint by the Reposition of the Fracture of the Elbow-Joint). *Lancet* 1914.
Ch. 94: 24.

By S. G. C. Nec & Obst.

From his experience the author concludes that the conservative treatment is the best in arthrotomy for the operative reposition of old luxations or luxation fractures of the elbow joint gives a free view for the necessary dissection of the joint ends. The luxation must be reduced enough so that complete reduction is possible and readily be carried out without any interference which is only rendered possible by the most expert manipulation of the fragments. In critical cases, sometimes by partial resection of the joint and in cases of chronic healed luxation, drainage is necessary. After the operation the arm is fixed in position. If there is no fever, no motion should be begun so as to avoid a possible high import in the joint. Movement should be done very carefully so that they should cause the patient no pain. The after-treatment especially in children must be kept up for a long time.
A. Goss.

Nidergang. Operative Treatment of Simple Fractures of the Diaphysis (Exposure of the Fracture of the Diaphysis). *Lancet* 1914.
This is a short paper.

By Z. Traub, D. G. Chu. Gressen.

A short historical review of the subject is given by the author stating that Hippocrates reported bone suture.

He takes up the objections to operation in simple

whether from chemical irritation or some hitherto unknown microorganism at any rate. Roving adhesions against vaseline injection in any case where there is a turbid fluid. In those more unusual cases where such forms of arthritis have led to painful snapping joints with deficient synovial fluid the injection of a small amount of vaseline may be tried small enough so that the capsule is not stretched or placed under tension and care must be taken not to produce an exacerbation of the inflammation.

The results in the 20 cases of traumatic dry arthritis were as the case histories show very good. This is really the field for vaseline injection for here there is no inflammation of a toxic or infectious nature but a connective tissue formation of fibrous change in the synovial membrane a disease which decreases or even destroys the capacity of the synovial membrane for producing synovial fluid. The joint ends are not protected from pressure and friction and finally there is more or less denudation of the cartilage. Roving a idea is to prevent these processes by substituting vaseline for the synovial fluid. He has also had very good results in 9 cases in 7 patients with senile disease of the knee shoulder and hip joints. Failure to recover completely in two cases was probably due to the fact that one of the patients had also a uric arthritis and the other an arthritis deformans. In 8 cases vaseline injection was undertaken to prevent ankylosis after arthrotomy and joint resection. In all these patients there were surprising results so there is no doubt that vaseline injection can be used successfully to prevent ankylosis after resection of tubercular joints in cases that can be closed without drainage after operation. **CZEITZ**

Shuttee H C Sprains J M St M A 1914
21 J By Surg Gynec & Obst.

A sprain is a severe twisting or wrenching of a joint with stretching or tearing of one or more of its ligaments and an effusion of serum or blood into the joint cavity and surrounding tissues—contusion or fracture of bones or cartilages may be an associated complication. Violence causes sprains greater violence causes dislocations. Young adults are more subject to sprains fractures occurring more frequently in the older subjects. The cardinal symptoms of inflammation re-manifested only when affect on developing the swelling being due to disturbed physiology of the part. An erroneous conception of the pathology led to immobilization and hence support or aid to cellular changes was lessened. Uniform pressure or support to the deviated parts with a mild degree of fixation has proved a better treatment.

Muscular contractions and relaxations procure a more vigorous cellular activity of lymphatics and blood vessels hence adhesive strapping supportive in character and applied with uniform pressure yet not interfering with normal function aided by the patient's effort to perform the regular function induces a rapid reparation. Adhesive plaster or mole-

skin plaster aided by massage of the parts and applied every few days secures uniformly good results.

The Cotterell Gibney method is considered less effective than the Hood method. Hot and cold water or dry hot air and massage are advised for late cases. **HARRISON W. MALTBY**

FRACTURES AND DISLOCATIONS

Ian A Clinical Lecture on Fractures Med
P & Cir 1914 1 236
By Surg Gynec & Obst

The author has apparently concluded that the indiscriminate operative treatment of fractures has, up to the present, done more harm than good. In America and among English surgeons the removal of plates inserted at operation is frequent in 48 per cent of cases. The explanation lies in the technique of the operator. Many surgeons even if they perform the mechanism correctly do not realize that when they put a foreign body in a wound they must exercise infinitely greater care than if they were doing an ordinary catgut enclosed operation.

Lane reports cases as follows:

1 Vertical fracture through the spine of the scapula with restoration of form and function by plating.

2 Fracture of the outer half of the clavicle. The clavicle lends itself easily to plating because it is dense and holds the screws firmly. The objection is the scar but this can be made almost imperceptible.

3 Fracture of the surgical neck of the humerus successfully plated. In this operation injury to the musculospiral nerve by fragments is avoided with a plate.

4 Fracture at the lower end of the humerus. Fixation with a plate is important here to prevent excessive formation of callus.

5 Fracture of the upper ends of the radius and ulna. In this case massage has been unwisely given by another physician with the result that excessive callus was developed causing partial ankylosis.

The advantages of the operative treatment of fractures are relief from pain caused by movement of fragments, a minimum callus is formed and time of healing thereby shortened, the bone is restored to its normal form, it is not necessary to immobilize neighboring joints. **W. A. CLARK**

Straus D C Woven Catgut Splints for the Open Treatment of Fractures. Surg Gynec & Obst
9 4 14 40
By Surg Gynec & Obst

The author believes that in those cases in which it is necessary to perform an open operation for the reduction and fixation of the fragments of a fractured bone the ideal method of fixation would be by an absorbable device so as to eliminate any permanent foreign body. He conceived the idea of weaving heavy catgut suture-material in the form of a rug with long fringed ends the rug to be just a little

shorter than the circumference of the bone the fringed ends to be used to tie the rug about the bone as a splint. The ends when tightly tied stretch the rug about the bone holding it firmly in place. The idea has been tested in a limited number of experiments on dogs with encouraging results. The splints so far have been made of raw rough German catgut No. 4 and No. 5 wet during the process of weaving so as to soften it making it possible to obtain a very close weave. The rugs are so woven that the length can easily be reduced. This of great practical importance and is accomplished by having the strands that run the long way of the rug—the warp—consist of separate fibers while the cross fibers—the woof—are made of one long continuous strand of gut which is alternately woven over and under the long parallel strand. To shorten the rug it is only necessary to cut one end of the cross strand free unravel a sufficient amount and then tie the free ends again.

So far the catgut rugs have been sterilized by the Bartlett iodine method. In a permanent splint to be carried out chronic ligamentary ankylosis will be tried. No trace of the splint has been seen at the end of three weeks and no inflammatory reaction seems to be produced by the presence of absorption of the splint except in a few cases where a serious ooze occurred. Healing shortly however and healing was *per primam*.

Moorhead J. The Transfusion Treatment of Femoral Fractures. *Am J Surg* 94: vi 14 By S. G. Gynec. & Obst.

Moorhead advises the transfusion treatment of femoral fractures in which ordinary methods are inapplicable or inefficient as in—

1. Oblique spiral or transverse fractures showing considerable deformity from displaced fragments in which traction on the soft parts is likely to prove inadequate.

2. Compound comminuted or complicated fractures in which the parts at either the fracture itself cannot be restored with.

3. Restless delirious or otherwise uncontrollable patients, also the aged or infirm in whom delirium might prove dangerous.

4. Old fractures showing nonunion or serious union in which reoperation is made preliminary to transfusion.

5. Certain fracture dislocations, or multiple fractures.

6. To be preliminary ligament prior to plating or other operative procedures.

The essential aim of the method is to obtain traction by driving a metal pin nail or drill through the skin soft part and bone of the distal fragment allowing enough of the metal to protrude on the other side of the skin so that traction cord leading to pulley and weights or pegs at the foot of the bed may be fastened to it the limb being supported on some form of padded double inclined plane. The drill is removed at the end of two or four weeks then

a plaster of Paris spica is applied and worn until the union is sufficiently firm to allow the patient to be out of bed. In some fractures very close to the knee joint as in the supracondylar variety transfusion can be made through the head of the tibia.

It is an intermediate measure between the closed or non-operative method such as the various extensions, and the open or operative radical methods of plating or wiring. It is less hazardous and perhaps more generally applicable than plating because (1) the procedure is simple (2) the scene of operation is at a distance from the traumatized area (3) no foreign body is left in the tissues (4) the parts are always exposed during healing (5) joint stiffness is minimized (6) atrophy of the distal end of the limb can be controlled.

The author does not recommend this treatment where ordinary forms of extension suffice or when plating or transfixation seem more likely to be efficacious either because of the nature of the injury or the availability of a surgeon skilled in that work.

He reports 17 cases in which there was no shortening or deformity and he thinks that the method should find a place in the treatment of certain fractures of the femur.

Walzel P. R. von. Operative Replacement of Old Irreducible Luxation and Luxation Fractures of the Elbow-Joint. (Die alte blutige Reposition. Historischer Überblick über Luxation und Luxationsfraktur des Ellenbogengelenkes). *Arch f kl Ch* 94: 4

By S. G. Gynec. & Obst.

From his practical experience the author concludes that Bunge's bilateral incision in the elbow arthrotomy for the operative reposition of old luxations or luxation fractures of the elbow as in general free view of the necessary dissection of the joint is desirable. The dissection must be carried out thoroughly so that complete extension and flexion are readily carried out without any interference which is only rendered possible by the most exact extirpation of the displaced fragment or of articular masses or sometimes by partial resection of the joint and in cases of very seriously ill luxations fractures drainage is not necessary. After the operation the arm is fixed in flexion. If there is no fear of passive motion should be begun as soon as possible. It is highly important that the passive movement should be done very reflexly and that they should cause the patient no pain. The fit treatment especially of the children must be kept up for a long time.

Nidergang. Operative Treatment of Simple Fractures of the Radius (Etude de l'autisme tibiaire et du traitement des fractures fermées). *These de doct Par* 93 By Centralblatt f d. ges. Chir. Gruzgeb.

A short historical review of the subject is given by the author stating that Hippocrates reported bone suture.

He takes up the objection to operation in simple

fractures the transformation of a simple into a compound fracture the technical difficulties of the operation the danger of infection and the formation of a fistula and callus formation The advantages are exact coaptation the overcoming of hematoma pain and contractures the immediate treatment of complicating nerve and blood vessel injuries and the more rapid consolidation and quicker restoration of function of the limb The indications are Impossibility of replacing fragments in fractures and those in which there is interposition of soft parts or multiple fragments and nerve and vessel complications Operative treatment is contra indicated in severe comminuted fractures which give better results when treated conservatively and for general reasons such as advanced age acute diseases etc

Lambotte says that operative treatment should be undertaken one to two weeks after the accident and only after non-operative treatment has failed In the meantime the skin must be thoroughly disinfected

The author gives a detailed description of the technique of direct and indirect instrumental reposition and gives illustrations of Lane's and Lambotte's forceps He describes bone ligature (*cerclage*) for which aluminum and silver wires are especially adapted also suture after boring holes in the bone wedging the bone fragments enclosing them in metal sheaths clamp suture and screwing with or without metal prosthesis In the so called external bone suture he mentions the fixation apparatus of Jaboulay and Lambotte which consists of a metal plate fixed to the fragments by means of long screws driven through the soft parts into the upper and lower fragments which holds them immovable in exact reposition He has had very good results with it He also praises Steinmann Codivilla and Lambotte's direct non-operative extension the latter drives a nail through the bone above and below the fragment and draws the fragments apart with a screw He thinks both the latter methods excellent because they are so easy to apply that they can be used by the practicing physician Ruff

Neuhof H Traumatic Intra Acetabular Separation of the Pelvic Bones *A S G Phil* 94
lx, 367 By Surg Gynec & Obst

Neuhof says that while fractures of the acetabulum are occasionally seen he has found no record of any cases of intra acetabular separation of the juvenile pelvic bones unassociated with other lesions of the pelvis He reports a case of a girl six years old who fell while playing the left leg extended and buckling under her with the hip striking the floor The pain was severe She was treated by rest in bed the first few days, with analgesics When Neuhof first saw her seven days after the accident she walked when urged limped on the left foot stood with the left pelvis higher than the right the left trochanter was less prominent than the right but there was no ecchymosis Passive and active

movements were limited and painful The soft parts were doughy on palpation but not painful there was pain only on pressing the trochanter toward the acetabulum and the anterior superior spine toward the tubercle Measurements showed the left trochanter to be pushed up and forward a little Rectal examination was painful on the left side There was no change in contour X ray showed the ilium to be separated from the ischium and pubis in the epiphyseal line in the acetabulum After ten days in bed she still limped slightly and the X ray picture was the same A plaster of Paris spica was applied and worn four weeks Examination made four months after the injury showed no abnormality

C A Stone

SURGERY OF THE BONES JOINTS ETC

Baer W: Treatment of Ankylosis (Traiment d'Ankylose) *Rev d'orth* p 94 59
By Zentralbl f d ges Chir u Grenzgeb

The author gives a historical review of the development of arthroplastic operations After experimental studies he devised a method in which chondrized pigs' bladders were used for implantation into joints that were to be mobilized He describes the preparation of this membrane the usefulness of which histological examination has shown The implanted membrane showed in filtration mostly of round cells there were no giant cells indicating foreign body irritation Later the membrane had undergone transformation into fibrous tissue

A detailed description of the operative technique is given and the results of 52 cases operated upon In 71 per cent of the author's cases he got good results that is painless motion of over 25 degrees In the jaw of which he had 4 cases this is easily accomplished Mobilization of the hip joint also offers good chances he had 20 good results in 3 cases There is more difficulty in ankylosis of the knee joint for here in addition to motion through 45 degrees sufficient stability must also be secured He had 10 cases of the knee joint with 81 per cent failures The remaining operations were one each in the elbow joint the radio ulna joint and the ankle joint and three in finger joints in the success of which the involvement of the periarthral tissue adhesion of the tendons was of great significance Tubercular ankylosis Baer thinks are better adapted for mobilization than septic or gonorrheal ones but in youthful patients it is best to wait for ossification of the one of growth Operation should not be performed in gonorrheal ankylosed joints for the first year in arthritis deformans not until after the subsidence of progressive symptoms There were rises of temperature to 38.5 degrees after some of the first operations but the membrane was never disinfected Therefore the wound was sutured primarily in all cases The joints were fixed with plaster for three weeks and then active and passive movement were begun D CAER

Tubby M. Operative Treatment of Ankylosis of the Hip Joint. (Tubby M. Operative Treatment of Ankylosis of the Hip Joint. *Rev. d'arth. p. 1014* 85)
By J. Traill, J. G. Ch. U. Grenob.

Tubby has operated in 8 cases of the mobilization of ankylosed joint. In 1 case, good results were obtained in a case of iliofemoral ankylosis of the hip and in one of ankylosis of the knee joint. The great energy of the patient in the after-treatment was a great aid to the success of the operation. Technically it is important that the incision should be very large and the incision of muscle or fascia very broad. In the upper extremity, the procedure should be carried out between the bone to be mobilized as here the chief object is free motion but in the lower extremity the procedure should be carried out because of the firmness of the muscles in the hip and a flap joint must be formed with the gluteal muscle.

The post-operative pain depends on the use of the spruce. Muscles of the hip joint must be removed. The best method for the incision is the heteroplastic use of interposed drainage must be established. Post-operative mobilization should not be begun until 4 to 6 weeks after the operation. Earlier motion causes hemorrhage, loosening of the flaps and re-ankylosis.

Okinczyk J. Operative Treatment of Gonorrheal Ankylosis of the Knee-Joint. (Okinczyk J. Operative Treatment of Gonorrheal Ankylosis of the Knee-Joint. *Rev. d'arth. p. 1014* 85)
By J. Traill, J. G. Ch. U. Grenob.

The author operated on a case of gonorrheal arthritis of the knee joint, resulting in ankylosis. The ankylosis recurred and this led him to take up the question of the effect of this operation. He has collected 18 cases from the literature. The results were very good in one case, good in 4, moderate in 8 and in 5 there was recurrence. That is, there was a recurrence in more than a fourth of the cases. And this he fears does not represent the true proportion because of the tendency of surgeons to report successes and keep silent in regard to their failures. In only 5 of the cases that were successful has time since operation been long enough to pass final judgment on the results.

The methods used were different. The five successful cases treated by four different surgeons were operated on as follows: (1) total resection of the fibrous perarticular mass, followed by the interposition of pediculated flaps of aponeurosis supplemented by fatty tissue taken from the neighboring parts; (2) liberation of the articular surfaces and interposition of fatty tissue followed by intra-articular injection of fibrolysin; (3) arthrolysis mobilization of the articular surfaces and interposition of an animal membrane; (4) mobilization and interposition of fascia lata externally; (5) arthrolysis internally. In two of the cases of failure, periosteum was interposed so it would seem that periosteum should not be used but in one of the cases of failure

aponeurosis supplemented by fatty tissue was interposed and in one case costal cartilage was used.

The cases are not numerous or exhaustive enough for final judgment of the operation to be based on them but from a study of these cases the author believes that the operation of mobilization is not the treatment of choice in gonorrheal ankylosis of the knee joint. If the ankylosis is in good position, abstention from operation should be the rule. If the ankylosis is in faulty position, operation is justified for ankylosis occurs it will be in a good position unless the patient will be better off. Operation also justifies itself in the rare cases of bilateral ankylosis but the cases in which operation is most helpful are those of limited fibroperitarticular ankylosis. In nearly all these cases the greater part of the joint movement is regained. If a knee is incomplete and motion possible, operation is justified but in these cases the object should be rather to respect conservatism and to obtain a complete and painless knee for the incomplete and painful one. In the case of the knee joint, there is that the knee joint is the rule and should hold the upper limit of the first time should be to obtain motion in the knee joint.

So far as the more difficult in the knee joint, the joint position to the formation of flaps and the use of the knee joint in gonorrheal ankylosis, because of the use of other methods is essentially a plastic disease, the lesions extend to the peritartarous ankylosis, there is a tendency to reform on the knee joint. Histories of the cases are given.

Young J. K. The Surgical Treatment of Infantile Palsy. *Lancet* 1914, 94, 34.
By J. Traill, J. G. Ch. U. Grenob.

The surgical treatment advised for infantile palsy is tenotomy, osteomyotomy, tendon transplantation and nerve anastomosis.

In a case of overcorrection is inadvisable and is indicated if there is degeneration is present. The cases less securing more useful position.

Osteotomy is a seldom required but gives splendid results when indicated. Stiffening fixation and extension; the treatment is the procedure the more advisable. Tendon transplantation has given the greatest uniformity of results how ever certain precautions are necessary. The deformity should be corrected before the tendon is transplanted free play in the tendon being secured through the new tunnel the tendon must be attached to the same tension equivalent to normal tension. The procedure must be done before the tendons are fixed.

Nerve anastomosis requires a tomical exactness with precision in identifying the nerves to be united. The axis cylinders must be united. Reaction of degeneration contradicts the operation. Part or all of these operations may be required to secure the best possible results. *HARRISON W. MALTBY*

ORTHOPEDICS IN GENERAL

Ollerenshaw R. Clinical Lecture on Orthopedic Cases. Clin J 94 211 574
By Surg Gy ec & Obst

The author gives a very interesting paper bringing out the principal points in the diagnosis of congenital hip. He emphasizes the prominent trochanters and the so called telescoping of the thigh with the visible sliding up and down of the great trochanter and femur on the lorum ilii the latter sign being absolutely diagnostic. The condition is cited as being a rather rare one there having been in his clinic only 3 cases among 1000 patients in the children's outpatient department and of these 3 cases of true congenital dislocation only one was bilateral. He cites Kronlein's statistics showing the preponderance of the malady among females and favors the developmental theory as an explanation of the cause of the trouble. He urges the importance of early recognition and treatment of the trouble before much walking has been done. Several methods of treatment are mentioned viz prolonged extension and abduction extending over several years the oil of cod liver oil and the bloodless operation which Lorenz has popularized. In speaking of further treatment which consists of plaster of Paris cast fixation (the cast being carried down over the hip and lower calf) he emphasizes radiographing the hip to be sure that reposition has been accurately carried out. The cast is kept on for six months and then the thigh is brought down to an angle of 45° another plaster of Paris cast being then applied after which he allows the patient to walk with the aid of a walking machine or crutches.

The treatment of extensive infantile paralysis is next taken up and special reference is made to the operation known as arthrodesis. Special attention is called to the many cases of flail leg in which patients attempt to carry about cumbersome apparatus which by its heaviness and awkwardness is an impediment rather than an aid and the value of arthrodesis in these cases is pointed out. In arthrodesis of the ankle joint he makes an external incision excising the articular cartilage from the lower end of the tibia malleoli and from the upper surface of the astragalus a right angle plantar flexion is then applied and after a week's time a plaster of Paris cast

In the case of the knee a horseshoe incision is made the articular cartilages of the patella are removed the joint is loaded and a plaster of Paris cast is applied. Indication for arthrodesis is extensive paralysis giving rise to a flail joint or to a flail limb.
1. Paralysis of such extent that the joint is firm as soon as pressure is put upon it.
2. In cases in which apparatus is badly borne or in which pressure sores result from its use.
3. In fracture cases treated in which plaster had been satisfactorily used.

H. W. M. M. M. G.

Davis G. G. The Education of Crippled Children. J. O. H. S. 94 117
By Surg Gyn & Obst

Davis points out that in orthopedic diseases where the crippling is of long duration where it may be necessary for a patient to be in bed a year or more that the mental development of the case is as important as the surgical care. Great care should be taken to prevent mental warp which makes the patients feel that the world the hospital or private people will always take care of them. Some cities are promulgating this kind of training and it is the orthopedist's duty to see that it is done in his private cases.
I. LOYD T. BROWN.

Schaeffler R. M. Treatment of the Deformities Following Infantile Paralysis. J. H. St. M. 18 94 112
By Surg Gynec & Obst

Some physicians especially some nerve specialists claim that resultant deformities following infantile paralysis are unnecessary and that apparatus is not required severe cases however prove this to be untrue. The early and skillful application of splints with regular and continuous systematic massage will entirely prevent deformities in a large majority of the mild cases. Gravity and weight bearing with habitual position passively assumed and trophic changes are the strongest contributing factors. The author believes that during the acute stage only supportive treatment should be given followed by preventive treatment which establishes a balance of the affected muscles and continued until the natural recovery is arrested. Tendon shortenings transplantsations, fascial shortening and tendon reinforcements by using one of the same group or one of an antagonist group and maintaining a correct anatomical position or slight overcorrection aid nature materially in creating a proper balance and increase of function. The reconstructive treatment is especially necessary in the neglected cases. Simple and practical procedures as a limited amount of massage stretchings mechanical supports and physical exercises together with a proper selection of operative method improve every case. Regular observation and supervision are necessary for prolonged periods of time many years passing beyond the need of supervision.
HARRISON W. M. TAYLOR.

Reiner H. Pathogenesis of Hallux Valgus (Z). Pathogenese des H. V. J. G. 94 540
By Zentralbl. f. d. ges. Ch. Cren geb.

According to Reiner there is many individuals a predisposition to the development of hallux valgus. In very rare cases intrauterine pressure may lead to congenital hallux valgus. In most people predisposed to this deformity continuous external influences are necessary to produce the deformity. Among such influences are walking on the tip-toe walking with heels that are not resistant enough and highly improperly made shoes too pointed heels or shoes made from too pliable leather.

The pressure of the shoe first places the great toe in a position of abduction and this position is increased by walking. The tendon of the flexor hallucis longus slides laterally between the first and second metatarsals and a shortening of the tendon and an increase of the deformity soon result. The only successful treatment of this painful deformity is operative.

GLASSER 22

SURGERY OF THE SPINAL COLUMN AND CORD

Calvé J. Some Preliminary Observations on Scoliosis. *Am J Orth Surg* 9:4, 13.

By S. R. Gynec & Obst.

Calvé and his colleagues have studied the physiological and pathological movements of the vertebral column and thorax and in a preliminary paper treat only of the movements of rotation of the vertebral column and of their amplitude according to the location of the vertebra. They deal especially with the rotation of the spine. Amplitude of rotation: cervical region—free and very great; dorsal region (1) upper and middle parts—free and very great (2) lower portion—difficult and of small amplitude; lumbar region—none.

The author cites experiments showing his reasons for the above outline. Especial stress from a therapeutic point of view is laid on the absence of lumbar rotation in normal and pathological cases.

Calvé says that Forbes' explanation of getting his results by torsion which causes an indirect derotation of the rib is insufficient because owing to the absence of rotation in the lumbar region there is also a correction of the scoliosis by a direct derotation by the vertebrae.

In regard to the pathogeny of scoliosis a general Calvé believes these facts should be considered:

1. The invariable length of the rib.
2. The impossibility of deforming the upper surface of the thorax owing to the conformation and structure of the first rib.
3. The orientation of the sternum which enters in the most pronounced cases of scoliosis remains fixed and retains its transverse position.
4. The fact that in the most severe cases of scoliosis the costal gibbosity and the lateral plane of the thorax on the same side remain always inside of sagittal plane passing through the summit of the scapula and along the external border of the iliac crest.

These four facts when there is a tendency to scoliosis may cause an increase in the deformity by the working of three forces:

1. The bending of the rib caused by the median orientation of the sternum and the fact that the greatest curve of the ribs normally in the posterior part tends to rotate the body of the vertebra to the convex side.
2. Because of the orientation of the sternum the rib on the concave side of the thorax also tends to pull toward the concave side on the reverse part of the vertebra.
3. A third force having the same tendency is the curvature of the spine itself which creates a

sals and a shortening of the tendon and an increase of the deformity soon result. The only successful treatment of this painful deformity is operative.

GLASSER 22

compression on the concave side of the bodies and their natural tendency is to escape this by slipping toward the free convex side. J. T. Brown.

Bucholz C. H. Further Studies of the So-Called "Sciotic Scoliosis." *Am J Orth Surg* 5:94, 11:90.

By S. R. Gynec & Obst.

Sciotic scoliosis is not an anatomical entity but merely a symptom. It occurs most frequently between the thirtieth and fortieth year and is never observed below puberty or above seventy years.

Heterologous cases are more common than homologous and males are more commonly affected than females. Traumatism is the most important etiologic factor. In a marked lateral deviation a tilting or reversal of lumbar lordosis occurs. The prognosis is more favorable in a case with a definite traumatic etiology. Males being subjected to more trauma single and repeated lateral deviation are common in males but rare in women. The following classification gives a concise clinical record of 104 cases carefully examined and observed for a long period.

TABLE I. CLASSIFICATION ACCORDING TO ETIOLOGY AND DEVIATION.

Male patients: Heterologous—single trauma 27, repeated trauma 3, occupational 2, colds 4, alcohol 3, neisser 1, specific 4, hypertrophic arthritis 3, pathological process, neuritic 1, miscellaneous 3. Homologous—single trauma 5, repeated trauma 0, occupational 1, colds 1, alcohol 0, neisser 0, specific 1, hypertrophic arthritis 1, pathological process, neuritic 1, miscellaneous 0.

Female patients: Heterologous—single trauma 4, repeated trauma 0, obstetrical 2, gynecological 1, hypertrophic arthritis 1, postural and indefinite 7. Homologous—single trauma 1, repeated trauma 1, in the remaining 0.

TABLE II. CLASSIFICATION ACCORDING TO AMOUNT OF DEVIATION.

Male patients: Marked heterologous 48, slight heterologous 2, marked homologous 7, slight homologous 8.

Female patients: Marked heterologous 2, slight heterologous 13, marked homologous 0, slight homologous 1.

Severities of sciotic scoliosis showed sacroiliac displacement which were corrected under ether anesthesia. In cases with definite trauma the effect of pain is in direct relation to the amount

SURGERY OF THE NERVOUS SYSTEM

Sau 6 L. Surgical Operations in the Gastric Crises of Tabes (Les interventions chirurgicales des crises gastriques du tabes) *Prog med* 94 h 205

By Zentralbl f d ges Chir u Grenzgeb

It may be said in regard to the pathogenesis of crises that typical crises cannot be attributed to the vagus. To be sure there are vagus crises but they are not painful they consist rather in nausea vomiting and crises of the larynx pharynx and heart. Typical crises are very painful and associated with disturbances in the region of the intercostals. Their origin is in the posterior roots of the fourth to the tenth segments not in the stomach where they are only localized. They ordinarily appear in the beginning of tabes and cease when the nerve fibers in the roots and the ganglion are destroyed by the disease.

Why should operation be performed when the crises stop of themselves and do not cause death? Operation should be performed only when the crises interfere with nutrition when weakness increases to such an extent as to threaten life when the crises are very frequent long and painful when they cause cachexia when they do not show any tendency to retrogression and when they simulate severe stomach disease.

According to the pathogenesis only operations should be performed that exclude the ganglion and the posterior roots which are the origin of the pains. Therefore the following operations should be rejected: Hoedel's simple laminectomy Schuller's incision of the central sensory tracts in the surface of the cord Jaboulay's removal of the solar plexus around the aorta Lincner's double vagotomy at the

cardia which is only to be recommended in vagus crises and to overcome the vomiting of the typical crises.

The operations which exclude the ganglion may be divided into three groups.

1 Operations outside the spinal canal of the type of Frankl's operation which is not very severe. The intercostals from the fifth to the eleventh or twelfth are laid bare without opening the spinal canal and torn out and with them the posterior root. The disadvantages are that the ganglion is not directly affected but by tearing out the posterior root chromatolysis is caused in the cells of the ganglion therefore the operation is unreliable. Gambier in 1913 reported 19 cases with 8 recoveries 9 recurrences one improvement and one death.

2 Operations inside the spinal canal—intradural—of which Forster's operation is a type consist of resection of the posterior roots from the fifth to the eleventh segments on both sides. The disadvantages are considerable mortality and frequent recurrence.

3 Operations inside the spinal canal—extradural—are as effective as the second class of operations and as harmless as the first. Guleke incises the posterior roots outside the dura and Tinel and Sauve ligate them on account of the severe hemorrhage from lesions of the plexus of veins in incision.

The author recommends that Frankl's operation be performed first if there is recurrence then the posterior roots should be ligated by Tinel and Sauve's method or ganglionectomy performed by Sicard and Desmarest's method. STREISLER

SURGERY OF THE SKIN FASCIA AND APPENDAGES

Davis J S. The Use of Small Deep Skin Grafts *J Am M A* 914 111, 985

By S. G. C. et al. Obst

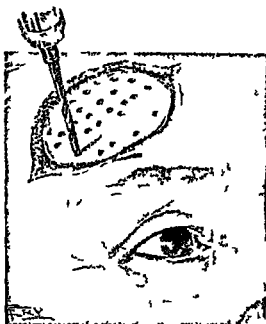
Davis has followed the idea of Reverdin as introduced in 1890 but instead of using small superficial grafts for covering granulated surfaces he uses what he terms small deep grafts. He says that grafts which are somewhat deeper and contain more of the true skin give a more stable healing and the final result is more like the normal skin. Harder than when the thinner grafts are used. Autografts usually take best.

Clean firm rose pink granulations make the best surface for planting grafts of this type. On the day preceding operation all secretion is dried and the area is remoiled the granulation are painted with tincture of iodine and dressed with balsam of Peru and castor oil. It is covered with boric salt gauze. At

the time of operation this dressing is removed and the wound washed carefully after which it is thoroughly dried as grafts hold better on a dry surface.

The area from which the grafts are obtained is prepared by shaving cleansing with soap and water then with ether and later with alcohol. A local anesthetic of 1 per cent quinine and urea hydrochloride or 0.5 per cent novocaine and adrenalin is usually enough. The infiltration anesthetic does not seem to affect the vitality of the grafts.

The technique of obtaining these grafts is to pick up a portion of skin on the tip of a needle and cut the little pyramid thus formed at its base with a scalpel. The grafts thus obtained are placed in rows 5 mm apart. When two rows are in place a strip of rubber protects 5 cm wide is applied over them then it is pressed down firmly which causes the edges of the graft to uncurl and lie flat. The next



Drilling surface to diploe (M. yo)

two rows are similarly covered the different strips of rubber protective however overlapping. The ends of the strips may be fastened to the skin by means of a few drops of chloroform. Strips of moist salt gauze and immobilization is all that is necessary.

The patient should be kept in bed and the dressings changed on the second or third day and the wound irrigated with normal salt solution. The next dressing should be a bland ointment on some old linen and if the growth is not vigorous 8 per cent. scarlet red or zinc ointment should be applied. When the new epithelium has covered the surface of the wound the dressing may consist of a dry powder as zinc tearat and the surface exposed to the air. A marked desquamation may result though how ever can be controlled by the application of oil.

The author states that the shrinkage in the size of the wound after grafting with small grafts in some cases quite remarkable. The grafts seem to stimulate marginal epithelium in some way.

EUGENE CARY

Mayo C. H. The Preparation of Dry Bony Areas for Skin Grafting. *J. Surg. Phila.* 1914, 17: 371.
By Surg. Gynec. & Obst.

The author states that while the principle of the method is not new the simplicity of the technique and the fact that it is so seldom used seems to warrant a brief description.

By means of a small drill the entire dry area of bone is perforated like a sieve or cribiform plate over its entire surface as shown in the illustration. These perforations are about a quarter of an inch apart and penetrate to the diploe of the skull or to the blood supply of the bone involved so that each perforation shows a slight hemorrhage. Through these perforations, graftulations are rapidly thrown out and soon merge on the surface allowing an abundant blood supply for the skin grafts.

Since infection of the diploe or vascular area of the bone may occur such a wound must receive excellent care at least until protective graftulations appear. For a number of years past several cases have been thus treated. These have included large areas of the skull remaining after the excision of carcinoma sarcoma or infections with pneumococci. The speedy healing of the wounds has been very gratifying.

Occasionally recurring ulcer of the leg in elderly people involves the bone also. The usual history of such cases is that when young they had a prolonged osteomyelitis with extensive destruction of both bone and soft tissue. The scar of the skin is solidly attached to the bone which easily nourishes nutrition to it but as time passes the bone becomes of very hardness and occasions indolent ulcers due to malnutrition which recur from time to time. While some cases may be readily covered by sliding adjacent tissue over the area it is a simple process to drill a few openings to the bone until it bleeds freely. The resulting grafts in tissue with its new vessels furnishes nutrition for the denuded bone.

MISCELLANEOUS

CLINICAL ENTITIES — TUMORS, ULCERS, ABSCESSSES ETC

Chastenet & Gery P. Tolerance of the Tissues for Foreign Bodies Especially Rubber Grafts (La tolerance des tissus pour les corps étrangers à propos des greffes de caoutchouc). *G. d. hôp.* 1914, 94: 15-16, 809.

By Zentralbl. f. d. ges. Chir. Grenzgeb.

The author gives a general discussion of the degree of absorption by the body of various substances

taking into consideration not only their physical and chemical properties whether they are smooth or rough whether they are movable or motionless in the tissues and whether they are infected or sterile but also chiefly the nature of the tissues in which they lie. For instance muscular or serous tissue bears a foreign body better than cellular tissue. The author concludes that rubber is a material that is closely related to the body (not the hard, vulcanized form but the soft elastic emulsion).

that it is a suitable material for replacing soft tissues. Even blood which is the most sensitive of the tissues to foreign bodies does not react to it by coagulation as was shown by replacing a part of the aorta in a dog by a rubber tube. There was no dilatation and no contraction and after months it was functioning normally. It may be used instead of fascia, fat and muscle in ankyloses and adhesions. Glove rubber may be used. Iieschi had excellent results with his 'new flesh' a rubber sponge that was used to close the femoral ring. It was completely penetrated by granulations and took without any reaction. It is the best substitute for fat, aponeurosis and muscle in plastic operations. RCTP

SERA VACCINES AND FERMENTS

Schubert G.: Treatment of Tumors with Tumor Extracts (DeB handling on T more mit Tumorextrakt.) Wo at chr f G b r t h Gy dk 1914 xl 487 By Surg () c & Obst

Schubert describes 8 cases that he has treated by Lunckenbein's autolysate method. While the results were not brilliant, most of the cases were in such an advanced stage that little could be expected of any method of treatment. In one case of sarcoma of the tonsil there was marked improvement but the patient refused further treatment on account of the slight pain of the injection. In a case of cancer of the breast the enlarged glands in the axilla and neck underwent marked regression. It would seem therefore that this treatment offers hope of further development. It offers the advantage over radiotherapy that it is constitutional in its effect while the latter is purely local. There was never implantation metastasis at the site of injection.

The question is discussed of whether the reddening at the site of injection can be regarded as a positive tumor reaction and be used for purpose of diagnosis. Abderhalden has succeeded in making rat sarcoma disappear by injecting extract of the sarcoma into dogs and then injecting the serum from the dogs into the sarcoma rats. He is now undertaking experiments of the same sort in human beings with serum obtained from horses after the injection of extract of human cancers. A Goss.

BLOOD

Wohlgenuth A New Method of Stopping Parenchymatous Hemorrhage (Ein neue Methode still zu parenchymatöser Blutg.) Dtsch G 1914 h f 24 94

II Zentralbl f d Ges Ch u Grenzgel

His method is by organic tissue is an emulsion of mercury and by means to be relied upon because it is putrefied by fresh hemorrhage. Kocher's formula coagulates better especially in hemophilia but less suited for profuse hemorrhage from the veins. As a general rule it is not the ferment that is lacking but the physical condition that must be improved. From the point of view

the author shows that the tampon produces ideal conditions. The disadvantage is that the tampon must be removed and this gives rise to secondary hemorrhage therefore absorbable tampons must be used. The author in conjunction with Jeger of Breslau has devised one. The material is prepared from fresh sheep's intestine which is treated in a certain way. When this was used wedge shaped excisions taken from the kidney caused no hemorrhage. Profuse hemorrhages from wounds of the liver and spleen were promptly stopped. The material was absorbed without any reaction and after a few weeks a few elastic fibers could be seen in the microscopic specimens only.

Jeger reported that he had also stopped hemorrhages from the carotid and the brain sinuses with the aid of this new material.

Kocher of Bern stated that he had long ago been convinced that contusions caused the majority of post-operative thromboses. Before every operation he looks for old thromboses. When varices exist he performs Trendelenburg's ligation with multiple incisions. He lets the patients get up soon in order to guard against slowing of the blood current. Fomo was led to the making of coagulum by examining the blood in Basedow's disease which is known to coagulate poorly. He recommends coagulum for venous and parenchymatous hemorrhage for example in transplantation of bone. He lays special stress on the avoidance of secondary trickling from the wound. Primary suture can often be used and for example in gouter operations drainage may be avoided. Twenty five years ago Paulestedt prepared a tampon material from sterilized catgut but the results of his experiments were not published.

One of the participants in the discussion pointed out that rise of pressure in the venous system is influential in post-operative thrombosis. The wall of the vein becomes soaked with blood. Early rising is a two edged sword although it is of interest with the venous circulation it leads to rise in pressure and so to thrombosis.

König of Marburg has found that with transplantation especially of fat necrosis takes place at the point where the transplant is embedded. He implants aseptic foreign bodies to stop hemorrhage especially sponges which take aseptically and are quickly penetrated by living tissue.

Albrecht of Vienna has used a substance resembling pyrocatechin.

Lehrich of Tübingen uses for the same purpose fluid prepared from the extra testicular juice of the thyroid gland a cording to Schlömann.

Köster of Berlin uses pieces of cotton to stop hemorrhage from the region of the gall bladder but without resecting them. Thromboses of embolism most frequently appear in septic processes in the arterial system. He has never had any good results from raising the foot of the bed and like we see does not recommend early rising after laparotomy. He has seen embolism result.

MÜLLER of Rostock says that statistics show that early rising has markedly decreased the frequency of thrombosis after laparotomy.

FRIEDRICH of Høngsberg in hæmorrhage from parenchymatous organs recommends temporary clamping of the hilus the use of the contused tissue as a tampon and suture of the capsule. He thinks that extirpation is too frequently performed. He has frequently seen aseptic thrombi as the cause of post-operative pulmonary embolism these thrombi originating after menstruation in the parauterine venous system.

VON HÄRER of Innsbruck wondered that all the speakers on the subject had discussed the visible varices of the saphenous veins. He considers they are not the ones that play the most important part in post-operative thrombosis and embolism. He regards as much more dangerous the deep veins of the calf where deep ascending thromboses may form very gradually as he had recently seen in a very tragic fatal case after herniotomy. In such cases he believes the proposed ligation of the saphenous vein for the purpose of preventing thrombosis may not only do no good but may do positive injury.

DREYER of Breslau demonstrated an especially long embolus of the femoral artery coming from the arch of the aorta extracted above Poupart's ligament after the injection of salt solution through a deep incision into the artery.

RIEDEL of Jena thinks that the origin of thrombosis is less simple than it has been made to appear. He pointed out its rarity after operations on the lower extremity, especially on the knee joint. He doubts whether it occurs in children under 11 years of age. Moreover, thrombosis is almost always on the left side probably because the left vein crossed at right angles by the artery passes between the latter and a small vein therefore unimpaired after the operation he has the left leg elevated. He thinks that superficial breathing and the defective suction on the blood resulting from it are responsible for the frequency of thrombosis after laparotomy. In conclusion he calls attention to the thrombi of the prostatic plexus in men.

FONIO A. Effect of Intravenous and Subcutaneous Injection of Coagulen Kocher Fonio in Animal Experiments and Therapeutically. (Über die Wirkung der intravenösen und subcutanen Injektion von Coagulen Kocher Fonio im Tierversuch nebst einigen persönlichen Erfahrungen). *Mitt. d. Ges. d. Med. Chir. u. Grenzgeb.* By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The blood platelets are the specific carriers of thrombogen and the chief cause of coagulation of the blood. For its preparation 5 to 10 per cent solution of animal blood platelets in physiological salt solution and sterilized it by boiling it for two minutes. He injected 20 to 500 ccm. of this solution intravenously into dogs and rabbits and obtained in every case a marked decrease in the coagulation time. Subcutaneous administration had a similar but slighter effect. He then used the remedy in a

series of patients with severe hæmorrhages with very good results. In melena neonatorum, nasal polyp, and hæmorrhage from stomach ulcers prompt hæmostasis was secured. As to dosage, he gives 50 to 70 ccm. of a 5 per cent solution intravenously and then enough subcutaneously so that the patient has had in all 5 gr coagulen—that is what he calls the preparation.

The cases must be considered individually—the more anæmic the patient the smaller the dose. Coagulen treatment is indicated in severe hæmorrhages of all kinds and also prophylactically before operations in obstetrics and in hæmophilia. It is contraindicated when there are changes in the intima of the blood vessels and in all diseases that show a tendency to the formation of thrombi such as arteriosclerosis, syphilis, varices, phlebitis, aneurysm, uncompensated heart diseases, pyæmia, sepsis, etc.

In conclusion the best known methods of hæmostasis are reviewed and Fonio states that only direct transfusion of blood meets the simplest theoretical indications as it introduces into the body an excess of the substances that produce coagulation. As coagulen contains one of the chief factors that induce coagulation it is next best in effect to blood transfusion. The extraordinary ease with which the solution is made is a factor of importance in its practical usefulness as is also its simple method of administration the best method of which is a combination of intravenous and subcutaneous injection. Its use is still in the initial stage. *Von Braun, Bonn.*

NAGAYA C. Infectious Thrombosis (Über die Frage der infektiösen Thrombose). *Virchow's Arch. f. path. Anat. etc.* Berl. 94. 1891. 287. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Experiments were made on dogs and rabbits with streptococci, staphylococci, and pneumococci. After laying bare the vessel to be experimented on—the veins of the abdomen and neck and femoral arteries—a fresh culture of the bacteria was placed directly on the vessel wall with a platinum wire. The main trunks and collaterals were carefully guarded from injury which might lead to a change in the blood pressure so that the thrombus without any mechanical alterations could be studied. Serial sections of the vessels were made and examination of them showed that a thrombus could be produced in the vessel by an infectious process directly on or in the neighborhood of the vessel wall, without any other etiological factors such as slowing of the current, injury of the vessel wall, chemical changes in the constituents of the blood etc. These thrombi contained a thrombus of blood platelets as a nucleus. There was no direct relation of the bacteria to the thrombus formation.

Any particular rate of speed of the blood is of no importance in the origin of thrombosis; slowing of the current is only a secondary auxiliary condition. But Rubbert's view is right that endothelial injury or changes in the walls are the decisive factors in thrombosis.

ZIEGLER-WALLNER

Voelcker: Experimental Study of the Causes of Post-Operative Thrombosis and Embolism (Experimentelle Studien zur Ursache der post-operativen Thrombose und Embolie) *Deutsche Gesellschaft f. Chir.* 1904
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Pulmonary embolism is preceded by a prodromal stage with subjective symptoms and increasing so-called mounting pulse. On autopsy brownish liquefied blood clots are found in the depths of the wound. These facts as well as the late appearance of the embolism 10 to 20 days after operation led the author to think that a toxic action proceeding from the changed coagulum was the cause of the disease. A direct imitation of the conditions in animal experiments produced no results but the intravenous injection of small quantities of autolyzed blood for a few days did. The animals became emaciated and about 20 days after the last injection died. On autopsy white thrombi were found in the right side of the heart and also in the left side and frequently there were thrombi in the lungs. All this occurred only when sterilized blood was used. Voelcker believes therefore that embolism occurs in human beings when the veins at the site of operation are not well ligated and disintegrated blood is carried through them into the circulation. This explains the frequency of thrombi after the Trendelenburg position and their rarity after ligation *en masse*. KATZENSTEIN

BLOOD AND LYMPH VESSELS

Frisch: O. R. von Experience with Aneurisms in Military Surgery (Änepschirurgische Erfahrungen über Aneurysmen) *Beit. M. Chir.* 1904 XCII
86 By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

The number of traumatic aneurisms has greatly increased over those observed in former wars. Among the 900 wounded in the Reserve Hospital at Sofia there were 16 cases of aneurism all but one of which were operated upon. Blood vessel injuries may be caused by spent bullets as well as by grazing bullets. Grazing shots of the vessels because of the stronger elastic contraction of the walls and the bending of the lumen of the artery are more apt to produce aneurism than penetrating wounds in which the blood current may not be interfered with and the entrance and exit wounds may be sealed up.

Diagnosis could be made at first in only a small percentage of the cases for in many of the cases all of the symptoms were lacking especially the circumscribed tumor, the rhythmic murmur and pulsation. In some cases extensive subcutaneous and intermuscular hematoma confused the diagnosis. In some cases there was not even a rise of temperature and failure of the peripheral pulse. If all these symptoms fail the suspicion of an injury to the artery is justified if a marked swelling of an extremity after a shot into the deeper tissues that was considered an aseptic hematoma, does not decrease in size after several days conservative treatment. If there is

also continuous or increasing pain and marked functional disturbance the diagnosis of aneurism is probably correct.

Every aneurism should be treated surgically. Gunshot injuries of the vessels if there is no hemorrhage or marked infection after as complete immobilization as possible should be sent to a good reserve hospital. The best time for operation is in the third to the fifth week when the track of the bullet has healed aseptically the aneurism has not yet been transformed into an organized sac and a sufficient collateral circulation has been established. The circulation should be cut off preferably by an Esmarch's bandage during the operation. If an Esmarch's bandage cannot be applied the artery should be laid bare toward its central end and a Hopfinger's artery forceps applied. Signs that the collateral circulation have been established are (1) normal color of the periphery (2) arterial bleeding from the peripheral opening of the injured artery (3) stasis peripherally from the clamped vein.

If the circulation is defective an attempt to suture the vessel is justified. Von Frisch has always performed the radical operation by Kikuzi's method of intracapsular ligation opening the sac freely and emptying it out. The injured place which is easy to locate on account of the bluish white coloring of the intima is seized and ligated. The author has never found degenerative changes after this method of operation which is the simplest for the operator and the safest for the patient. GROSS

Neal: D. W. Arteriovenous Anastomosis in the Upper Extremities for Impending Gangrene *Illus. M. J.* 1914, xxvi 373

By Surg. Gynec. & Obst.

Neal gives a brief review of the development of arteriovenous anastomosis a résumé of the procedure as applied to the upper extremity and a complete report of one case.

The first attempt at anastomosis in man was by Santruster in 1902 although Frank, Raymond, Pettit and others had experimented along these lines. Since 1902 Carrel, Bernard, Horsley and Bernheim have gradually improved the technique and placed the procedure on a firm basis.

Lighty cases have been reported with successful results. Of these 6 only were in the upper extremity because as the author states indications for anastomosis in that part are fairly rare and the operators are reluctant to work with such small vessels.

The author's case was a man of 52 who had been enjoying excellent health except the loss of use of the right leg due to an attack of anterior poliomyelitis at the age of 7. For a crutch he used a broom stick with cross bar so that the entire weight of the body was borne by the right axilla. In 1913 a severe pain developed in the right hand, elbow and axilla the pulsation of the arteries gradually disappeared from the arm as far as the shoulder and the entire arm became cold and cyanotic with a

gangrenous area the size of a lolly on the dorsum of the hand

At operation the axillary artery and branches below the acromial thoracic were thrombosed and completely occluded. An anastomosis was made by suture between the artery and vein at this level. Immediately following operation pulsation was noted in the superficial veins. The color improved and the skin became warm. Five months later the result was ideal.

The author emphasizes the possibility of conservative treatment and recommends the use of the Lesplasse magnesium rings in place of the suture.

The conclusions are

1. The anastomosis should be done more frequently.
2. The operation is successful in 83 per cent of cases.
3. The operation is no more severe than amputation.
4. Nothing is lost by a temporary first amputation can follow if necessary.
5. End to end anastomosis is the best method.
6. The results appear to be permanent.
7. Anastomosis has entirely displaced thrombotomy.

PHILIP M. CHASE

POISONS

Günther F. Reducing Power of the Tissues in General and Local Infections (Über die Reduktionskraft der Gewebe bei den allgemeinen und lokalen Infektionsprozessen). *ibid.* 4 Gb d path A 1 B Kierol K 1 hr f P B m 1 1 T B gen 9 4 3 6

By Zentralbl f d ges Chir u Grenzgeb

Günther studied the reducing power of the tissues under pathological condition by means of vit. I stain. He used a 0.03 per cent solution of methylene blue to the kilogram of weight in rabbit. To study the reducing power in general infectious processes he made a trephine opening in the skull and then infected the animals with anthrax and cholera. The results were not uniform. Anthrax because of the slow course of the disease, but in the rapidly developing septicæmia from chicken cholera ending in death the reducing power of the body cells measured in the brain was markedly decreased.

A different technique was used in the study of local infectious processes. The rabbit in this case were previously treated with killed tubercle bacilli or with non-virulent living bacilli of the h. m. type or with highly virulent bacilli. The methylene blue solution was injected intracranially in different stages of the tubercular disease and the animals killed after three to five minutes. The brains were then immediately examined and the reaction of the tubercular foci to the coloring matter determined. From the beginning of tubercle formation there was a decrease in the reducing power of the tubercle. There was also a zone with decreased reducing power around the tubercles.

M. von B. v.

SURGICAL THERAPEUTICS

Raymond C. Treatment of Tuberculosis, Particularly Surgical Tuberculosis by Recalcification (Contributions à l'étude du traitement de la tuberculose et particulièrement du traitement de la tuberculose chirurgicale par la méthode de recalcification). *Thèse de doct. Médecine*. 3
By Le trull f d ges Cynak u Geburth s d Grenzgeb

The empirical treatment of tuberculosis with calcium salts is old. Theoretical basis for it was set forth in Robin's work in 1895. Normal calcium metabolism is of such a nature that the amount of calcium present in the body cells and fluids is constant. If there are variations in the calcium intake or excretion the skeleton assumes the function of regulation giving up calcium when it is needed or taking up any excess. Before and in the beginning of tuberculosis the calcium intake is decreased by gastrointestinal disturbances, acid fermentation and general acidosis and the excretion is increased by the action of toxins, increased oxidation and fever. The consequent calcium impoverishment is made up at first as far as possible by the skeleton to such a degree that tubercular patients often float on the water in their bath. Later general calcium impoverishment takes place when the skeleton can no longer make up the deficit.

The question is yet in dispute as to whether the demineralization is a cause or an effect of tuberculosis. The facts remain that tubercular lesions heal by calcification on that tubercular patients are demineralized and that the administration of calcium has a favorable effect on tuberculosis.

The treatment is not limited to the administration of calcium but also includes measures to lessen the excretion of calcium. This is done by decreasing acid fermentation and by increasing the alkalinity of the body fluids. For this purpose a restriction is avoided and sufficiently long intervals allowed to elapse between the meals. Alcoholic drinks are forbidden as well as acid and fermentation-producing foods (cheese) and butter and sauces. Two hundred to three hundred gm of bread should be eaten daily also an abundance of vegetables, but little meat. The only drink allowed is carbonated lime water. A powder is given three times daily, consisting of calcium carbonate 0.5, calcium phosphate 0.5, magnesium carbonate 0.5, sodium chloride 0.015. Within the beginning of gray stools or constipation the dose is decreased.

The mode of action of the calcium treatment is not exactly clear. The assimilation of the calcium salts is possible. At any rate the skeleton takes up calcium. The teeth become hard again, oxidation decreases and the fever declines. In patients in the first and second stages of pulmonary tuberculosis there is rapid improvement in the general condition. On a light diet there is an increase in weight, which of course does not begin until the patient has been under treatment considerable length of time. Gradually the local symptoms and the signs on auscultation disappear. There are good results also

in tuberculosis of the larynx The same is true of tubercular peritonitis, in which surgical intervention is only occasionally indicated in the forms with ascites

The author shows the favorable effect of the treatment in peritonitis, epididymitis, and cervical gland tuberculosis by means of case histories from his own and others experience In osteo-arthritis the administration of calcium is a supplement to other methods of treatment HARRISS

ELECTROLOGY

Stillians A W The Present Status of Radiotherapy in Europe Chicago W Recorder 9 4 xxxvi 482 By Surg Gynec & Obst

Stillians states that the reaction against immense doses of radium has already set in on account of severe immediate as well as late injuries having resulted Good effects can be obtained by smaller and more careful dosage The increase of the distance of the radium from the body is also a step in the right direction The technique however must be developed yet Radium has not superseded the roentgen rays even in pelvic carcinoma The most brilliant results were obtained with roentgen rays while a fair percentage of cases have received wonderful benefit from radiotherapy However recurrences are still possible

Efforts to aid radiotherapy by the intravenous injection of the salts of cholin or by the production of antibodies are still experimental

Methods of measuring doses are still imperfect The greatest experience and painstaking care are required Besides this difficulty there is a wide variability of sensitiveness to radio activity

The results of roentgentherapy in menorrhagia are brilliant injurious after-effects are much less frequent than had been anticipated but "caution and patience must still be the watchword of the radiotherapist LEOPOLD JACINS

Holding A F The Relative Value of Radium in Dermatology J Am W As 9 4 lxii 741 By Surg Gynec & Obst

Holding gives a résumé of the relative value of radium in dermatology in comparison with other more available and accessible physical methods such as the X ray high frequency desiccation ultraviolet rays caustics carbon dioxide snow and surgery In comparing the relative value of these methods the following eight points should be considered

1. Cost Radium is far more expensive than any of the other methods Massive roentgen rays electric desiccation and ultraviolet rays come next in expense Surgery and caustics are the cheapest

2. Ease of application As to ease of application much depends on the training of the person who administers the treatment Each therapist will naturally do the best work with the greatest ease by employing that agent with which he is most

familiar Other things being equal radium and caustics are easier to apply than the other agents in question

3. Time consumed in treatment Radium applications require much longer time than any of the other methods They require hours while the other treatments require minutes

4. Pain Radium roentgen ray and ultraviolet light treatments in proper dosage cause no pain Electric desiccation and carbon dioxide snow cause slight pain Surgery and cauterization are very painful and require a local anesthetic Chemical caustics are the most painful

5. Cosmetic effects Cosmetic effects are the best after radium roentgen rays, ultraviolet light desiccation and carbon dioxide snow and the poorest after surgery or cautery

6. Dangers With a proper technique there is no danger with any of these methods Poor technique is a *de facto* contra indication for the use of any agent

7. Superficial healing and deep extension The well demonstrated superficial healing powers of radium and the roentgen rays should not lead the surgeon to attempt to cure too extensive a lesion with these agents alone lest the lesion make deep inroads while valuable time is wasted on superficial healing

8. Indications in dermatology Non malignant and skin conditions such as warts moles nevi acquired blemishes like tattoo marks or keloids lupus ureteral caruncles mycosis fungoides blastomycosis and acne can readily be controlled by X rays and electric desiccation If one has the equipment massive doses of roentgen rays carbon dioxide snow and ultraviolet rays may be used in these conditions with advantage Radium will give good results provided the radium and time necessary are available Surgery is contra indicated for superficial lesions because better cosmetic results can be obtained with less danger and less pain by non surgical methods Psoriasis eczema and skin diseases due to faulty metabolism should be treated first by systemic measures including radium emanation if available When this does not produce the desired results, electrical methods such as roentgen rays in divided doses are indicated In deeper malignant conditions of the skin the following therapeutic procedure should be adopted

1. Massive roentgen deep therapy or massive radium deep therapy

2. Complete radical operation preferably by bloodless methods such as thermopenetrator or electrocautery or massive caustics (Strobel)

3. Fulguration (de Keating Hart) into the wound

4. Post operative roentgen deep therapy or massive radium deep therapy

In hopeless malignant skin conditions the patient's symptoms can frequently be much ameliorated by massive deep roentgenotherapy or by radiotherapy

MILITARY SURGERY

Tuffier: Military Surgery (Cont. à l'étude de la chirurgie de guerre) *Bull. A. d. d. méd. Par.* 1914 1 11 5 By Surg. Gynec. & Obst.

Tuffier has had experience from the firing line of the Vosges to the hospitals at the rear. He believes that antiseptics is incomparably superior to asepsis and thinks we should return to the antiseptics of Lucas Champonnière and to Chassaignac's drainage and that the French method of preservation of limbs should be adopted. Rifle bullets are least harmful shrapnel next and bursting shells worst. As the latter are apt to cause gangrenous septicaemia and tetanus they should be removed at once if possible. Compound fractures of the limbs are more serious the nearer they are to the root of the limb; those of the upper third of the femur are worst. Injuries of the thorax are generally quite benign and rarely require operation.

At the different hospitals Tuffier visits he saw cases with very large exit wounds which would indicate that the forbidden explosive bullets had been used. Freight trains are used to transport wounded for they carry twice as many as passenger trains and as there are about 4,000 men wounded each day it is necessary to transport them as rapidly as possible. He was struck by the excellence of the first dressings and the fracture apparatus improvised at the front. He finds simple wooden splints best.

As the hospitals near the firing line are constantly in danger of being abandoned if there is an advance or captured if there is a retreat, only urgent surgery should be performed there. He had hoped to find that abdominal surgery could be done at these hospitals, but was disappointed. The only thing to do with the abdominal injuries is to place the patient in a sitting position and not give them food till they can be taken to a hospital. Even at the rear among five abdominal cases operated upon only one died. He has found that both patients and doctors caring for them show a tendency to re-dress too frequently; often it would be better to leave the dressing alone. One of the most serious complications of wounds is tetanus and for this the transport trains have been blamed. It is possible that a man might contract tetanus from being carried in a casket that had been used for horses but when the patients are placed in the trains they would be recovered so that theory is scarcely probable. Tetanus is generally caused by bursting shells carrying earth into the wound so that its origin is practically always on the battle field though it does not become manifest till later. Tuffier is convinced that if cultures were made from the surface of wounds tetanus bacilli would often be found. Antitetanic serum therefore should be given on the battle field, even before the first dressing. Other serious complications are septicaemia and gaseous gangrene. The wounds should be treated by scrupulous cleansing application of hydrogen peroxide and good drainage. Foreign bodies should be removed at once. A. Gos.

Capitan: Injuries of the Thorax by German Bullets (Quelques observations sur les plaies de thorax par balles de fusil allemand) *B. N. Acad. de méd.* P. 1914 1 1 130 By S. G. Gynec. & Obst.

It is generally considered that injuries of the thorax by modern rifle bullets are not very serious if the bullet traverses the thorax without injuring the heart or mediastinum. Capitan has found in his experience in the present war that this is true if the bullet is fired at close range and moving rapidly and if it strikes the thorax perpendicularly and does not remain embedded in it. It is not true if it strikes obliquely and if it has lost its speed as then the lesions are more serious and heal more slowly. The results, of course, are still worse from shrapnel and bursting shells than from rifle bullets.

In the discussion REVUTZ called attention to the fact that soldiers with injuries of the lungs should be protected from cold for if exposed or too much fatigued they are apt to have secondary traumatic pneumonia. They should not be given a certificate of recovery and returned to service too soon; it is preferable to send them home on leave of absence to give the blood in the pleura time to absorb and give the lungs an opportunity to cicatrize. A. Gos.

Piqué: L. Conservation of Limbs in Injuries to the Soft Parts and Fractures of the Diaphysis (De la conservation des membres dans les plaies de parties molles et les fractures diaphysaires) *Bull. A. d. d. méd. P.* 1914 1 1 130 By S. G. Gynec. & Obst.

Piqué is an earnest advocate of conservative methods. Formerly amputation was performed in almost all cases of injuries to the limbs and it was only in the Russo-Japanese war that the value of conservative treatment was first demonstrated. The chief aim of the surgeon at the front should be to protect wounds from infection for the majority of fresh wounds are aseptic. There should be no digital or instrumental examination of wounds, and they should be immersed at once in a dry antiseptic dressing. In the hospitals at the rear there are two classes of cases: the septic and the aseptic. In the first class about two thirds of the patients in frequent dressing get the best results. It is better not to search for bullets. Abstinence from operation is best also in cases of moderate infection. Amputation is necessary in few cases except those of total gangrene. A few cases that have been too long at the front, those in which there are very grave nerve lesions may demand amputation. Wounded soldiers are as a rule young men without organic defects who are capable of undergoing a slow but progressive convalescence. A. Gos.

Goebel, W. Treatment of Gunshot Fractures of the Femur (Ergebnisse der Behandlung von Schussfrakturen der Femora) *Beitr. Chir.* 1914 1 1 133 By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author tells of his experience in the Fourth Reserve Hospital at Biberach. His conception of

primary infection differs from that of most authors. By primary infection he means only infection from the bullet and he classes all others as secondary infection especially infection from bits of clothing carried in by the bullet. His dictum that infection is practically always secondary is therefore only apparently different from that of the other military surgeons of the Balkan war.

Operation should not be performed immediately after the coming of the transport it will do no harm to wait two or three days. Many fractures of the limbs are severely infected. Free opening of the wound generally obviates the necessity for amputation. Many infections subside under plaster casts. These should either be fenestrated or in the form of a bridge cast. Where there is no infection gunshot fractures are among the most favorable of compound fractures in comparison with civil injuries because there is less contusion of the soft parts less displacement of the fragments and less shortening. Among 10 fractures of the femur there were 6 with out shortening and 4 with shortening of 2 to 3.5 cm.

In fractures of the lower limbs Goebel prefers plaster casts in those of the upper arm extension. He prefers plaster for transportation in preference to any other method of dressing because it is a better safeguard against infection. The longer the time of transportation the greater the percentage of infection in all gunshot wounds but in the long transportation from Prilep, Monastir and Adrianople the number of infections in gunshot fractures was less than in the earlier shorter transportations because they were fixed with plaster dressings. However the location of the entrance and exit wounds must be indicated for the benefit of the hospital surgeon. GRAVE

Lotach F. Gunshot Injuries of the Vessels by Pointed Bullets. Their Treatment in Military Surgery (Schussverletzungen der Gefäße durch Spitzgeschosse und ihre chirurgische Behandlung). *BH u. M. Ch.* 9 4, 201 175. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Since the introduction of covered bullets especially pointed bullets there has been a great increase in the number of blood vessel injuries as the body does not yield before the bullets on account of the extraordinary swiftness. These injuries constitute a high percentage of the injuries causing death on the battle field. However a great number of the injured escape with their lives and sooner or later present themselves for medical treatment. When the wounds are dressed a great number of blood vessel injuries escape detection and sometimes therefore especially when the means of transportation are bad the patients die of secondary hemorrhage while in transport. Because of the smallness of the entrance and exit wounds and the manner of displacement of the tissues especially the muscles direct communication with the outside is not established the primary hemorrhage is so slight that it is not noticed and in many cases the blood vessels are not thought of.

All degrees of vessel injuries are observed. Sometimes the bullet opens the vessel sheath passes between the artery and vein and injures both to a certain extent. Frequently silent, hæmatomata develop that is those that do not show pulsation or murmur but after a few days they show the characteristic symptoms and become demonstrable clinically. If the means of transportation are good silent hæmatomata should be fixed firmly and the patient carried to the field hospital.

With rest and compression many vessel injuries recover without operation. The vessel should be ligated both above and below the injury this procedure, however should be avoided as far as possible on the field if rendered necessary by hemorrhage it should be done if possible under anaesthesia and with Esmarch's bandage.

Aneurisms which do not give any decided indications for operation such as threatening rupture or pressure gangrene are treated by compression operation on them should be performed so far as possible only in stationary hospitals. Operation consists in the ligation of both the afferent and efferent vessels and the extirpation of the aneurismal sac. Suture of the vessels is very unusual. SPINOV

Hübner V. B. Effect of Pointed Bullets Based on Experimental Data (Über die Wirkung des Spitzgeschosses auf Grund experimenteller Daten). *S. mml. d. M. u. d. Ärzte d. Russ. Geistesl. u. Rot. u. Kre.* 9 4. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

From his experience Hubner does not think that rotation of the pointed bullet occurs very frequently. Bone injuries from pointed bullets are severer than those from oval bullets only at close range. Tangential shots of the skull show many fragments of varying sizes. Unlike Fessler the author finds rotation of the bullet in penetrating wounds of the skull very seldom. Penetrating wounds of the skull even in the Balkan war showed a favorable course. Injuries of the lung by pointed bullets are less severe than injuries by oval bullets as the destruction of lung tissue is less. In abdominal injuries a factor of importance is whether the bullet strikes an empty or a full intestine. Deformity of the bullets was frequently observed in the Balkan war. The better the bullets are made the less deformity there is.

The author comes to the following conclusions:
1. The number of wounded will increase in future wars as the force of the pointed bullet is very great and every soldier can carry more of them because of their light weight.

The percentage of severe injuries will increase transverse wounds will be particularly unfavorable and the danger of infection will increase.

3. The first effect of the bullets will be more favorable than that of wounds with bullet Model 83. He thinks the effect of the pointed bullet is not slighter than that of an oval bullet of the same caliber and because of its ballistic properties, the arming of soldiers with it is advisable. HILSECK

Goldammer F Experience in Military Surgery
in the Greco-Turkish and Greco-Bulgarian
Wars 1912-1913 (Kriegsarztliche Erfahrungen
aus griechisch-türkischen und griechisch-bulgarischen
Kriegen 1912-1913) Berl. Klin. Wochenschr.
1914 Nr. 2 Nr. 11 f. d. g. Chir. u. f. d. re. gel.

The author gives an interesting review of the military hygiene and sanitary service among the Greeks and Turks. The section on gunshot injuries is of especial value because it establishes a standard for surgical treatment in war. Operation should not be performed on the field. The value of a march bandage in the hands of stretcher-bearers is questionable. Good surgeons are necessary in the front lines not to operate but to see that the operation is properly carried out. Mistake is not necessary for the first dressing. Treatment of soldiers in the region of the wound is unnecessary—purely aseptic dressing being indicated.

French dressing packs are impractical because when opened the loose compresses fall out in the ground and if they are used they require too much space. Moreover the French method of covering the wound with French dressings. Primary infection is the most important secondary infection; usually however the body can overcome the majority of the primary infection if sufficient rest is given. A correct judgment as to the real hazard and frequency of infection can be gained only by one who has worked at the front as well as the hospital. The former to and the latter to the great number of infection encountered.

Goldammer does not approve of plaster for the first dressing of fracture but believes only splints should be used. When satisfactory treatment is possible fenestrated plaster should be used or preferably extension—then primary debridement. When there is no infection gunshot fractures heal quicker than compound fractures in civil life. In infected fractures there should be as little interference as possible. Every fragment should be preserved as long as possible. Pyocyanus infection is not dangerous and is best treated with dry boric acid.

Infection is more frequent in shrapnel and grenade injuries than in injuries from infantry fire. Shrapnel bullets oscillate more readily and remain in the wound more frequently. The author has never

seen rotation of the bullet in the wound. The section on phlegmons is about the same as of other authors. There is no difference in regard to the frequency of infection. It is worthy of note that phlegmons from gunshot injuries of the soft parts quickly undergo retrogression under a compression bandage. In infected fractures compression bandage is not possible because fixation of the fragments by a plaster is not more effective in overcoming the infection. In large injuries of the soft parts debridement is valuable until the patient becomes accustomed to it. There is no fever.

There is nothing new reported in regard to the treatment of the vessels. It is pointed out that large hematomata should never be removed and that the union of the blood vessels that prevail in war there are severe phlegmons of the vessels.

In regard to gunshot wounds of the skull the author agrees with H. H. H. that in tangential wounds the skull is not operated on but should be performed at once but through the diameter only rarely. Fractures of the lower jaw should be treated with Schödlers method of splinting. The prognosis is very bad in gunshot injuries of the pine gland. Laminectomy is indicated only when there is only an entrance wound or when the recent injury is the entrance wound.

Hot wounds of the lung are generally favorable to life but not always so. Complications are generally common. The most serious complication is hemorrhage which should never be punctured. It also occurs as fever that is very similar to that of empty mastoiditis but curves a great deal.

In gunshot wounds of the spine conservative treatment is strongly indicated—37 to 40 cases were treated. It is necessary to add 6 to 8 days' abstention from food with intravenous injection of adrenalin salt solution. Rigidity of the apparatus of the spine only the hospital (otherwise they are played) things that are the patients.

Goldammer's experience includes 746 gunshot injuries—436 of them mortal, 150 shrapnel and 150 grenade injuries. His experience is especially interesting because he has worked at the front as well as in the hospital. He believes that a great deal of military medicine is the Southwest African campaign. Pa. 2

GYNECOLOGY

UTERUS

Maury J M *Cancer of the Uterine Cervix J Ten St M Ass 1914 vii 195*
By Surg Gynec & Obst

The author states that of the cases of cancer of the uterine cervix coming to the surgeon only a small percentage are in the operable stage of the disease. In his own clinic 10 per cent and in Werder's of Pittsburgh 35 per cent were in the operable stage. In Austria where a campaign of education has been carried on the clinics of Schauta and Wertheim show 52 per cent and 55 per cent respectively of operable cases.

Operative cases 10 no recurrence after 5 years are reported as follows

Werder	46	per cent
Wertheim	42	5 per cent
Cullen	26	per cent
Kelly and associates	20	per cent
Clark	16	66 per cent

These results show what may be done if the surgeon can get hold of these cases early enough and will do the radical operation after the method of Wertheim. Werder's modification of substituting the cautery for the ligature has not been in vogue long enough for a judgment to be rendered of what its results will be in the hands of others.

The whole subject resolves itself into three phases viz

- 1 Education of the public
- 2 Education of the family physician
- 3 Thorough operative procedure by a competent surgeon

HARVEY B MATTHEWS

Wilson T *The Results of Radical Operative Treatment of Cancer of the Uterus Med Pre & C 1914 xcvi 302*
By Surg Gynec & Obst

Wilson states that in England the abdominal operation is becoming the routine method of dealing with cancer of the uterus. The reasons for this are

- 1 It affords a better oversight of the field of operation than the vaginal procedure
- 2 The vaginal operation requires special skill and technique which most operators have not developed hence the usual procedure—colectomy—is best in such hands

The affected glands cannot be removed by the vaginal route—this is an important point to note

The difficulties of estimating justly the curative results of operation for cancer of the uterus are very great because (1) the disease is very uncertain in its course and duration and (2) the actual virus of

cancer—not yet discovered—seems to pass through varying phases of growth and activity—now active and virulent now dormant and non virulent. Again the individual host plays a very important rôle for it is well known that some patients succumb very much faster than others and there are some who possess a relative immunity against the disease.

Wilson's results are given in the following tables. Cases of cancer of the uterine body seen until June 30 1909

Total cases seen	50
Radical operations	31=62 per cent
Deaths following operation	2=6.4 per cent
Cases free from recurrence for 5 years and upwards	12
Absolute curability	24 per cent

Results of vaginal hysterectomy for cancer of the cervix to June 30 1909

52 operations on 288 patients	
Average operability about 18 per cent	
Death following operation	1
Patients surviving 5 years and upwards	16
Absolute curability	5.5 per cent

Results of abdominal hysterectomy for cancer of the cervix to June 30 1909

12 cases in 98 patients	
Operable ratio	32.5 per cent
Deaths following operation	9
Free for 5 years and upwards	10
Absolute curability	10.2 per cent

The ratio of operability has steadily increased from 14 per cent prior to 1899 to 36 per cent in 1913. The total number of patients remaining free after 5 years and upwards has increased nearly twofold in the last decade and the author is of the belief that with our present-day surgical methods it will be possible to achieve an absolute cure in 25 per cent of all cases of cancer of the uterine cervix.

HARVEY B MATTHEWS

Dawydoff G A *The Value of Cystoscopy in Determining the Operability of Carcinoma of the Cervix (Die Bedeutung der Cystoskopie zur Bestimmung der Operationsmöglichkeit bei Porzycarcinom) Verhandl d 15 K b h o z St Petersburg 914*

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

From 120 cases of his own the author concludes that a normal cystoscopic picture is a complete guarantee that there will be no difficulty in freeing the bladder. The severest changes in the bladder are cancerous metastases in the wall of the bladder, oedema, swelling of the trigone when this is not caused by purely mechanical factors. Von Holz

alla, A W: *Diagnosis of Fibroid Conditions of the Uterus the Importance of Early Surgical Intervention* So th M J 9 4 vii 720

By Surg Gynec & Obst

The author considers fibroid conditions rather than fibroid tumors of the uterus only as he desires to include fibrosis uteri in the condition under discussion — the etiology symptoms and treatment being practically identical

The chief symptom is bleeding. Usually metrorrhagia and fibroid conditions must be differentiated from sarcoma carcinoma polyp chronic metritis with endometritis, complications of pregnancy chorio epithelioma subinfection and ectopic gestation

The dangers of delay in securing a surgical treatment are (1) a slow and sure debility due to exsanguination (2) formation of dense adhesions (3) nervous symptom arising from impaired assimilation and impaired cell function and (4) cardiac changes.

The author reports 5 cases of fibroid conditions of the uterus in patients ranging in age from 4 to 35 years. The chief symptom was increased menstrual flow. One of the cases showed adnexal symptoms which cleared after operation another showed extreme nervousness for 14 years previous to operation. In another case fibroid complicated a pregnancy. In the first case the fibroid was buried in adhesions, some of which had involved the ureter these adhesions were left around the ureter which broke down and ruptured on the fifteenth day necessitating a removal of the kidney

EDGAR LARY

Walter J C M: *The Drug Treatment of Dysmenorrhea* Med Press & Co 9 4 xcvi 304

By Surg Gynec & Obst

Walter gives some good suggestions for the drug treatment of dysmenorrhea

First of all alcohol (hot gun or whiskey) and morphine are freely used — but only under the physician's direction. Phenacetin 15 gr doses may be given and repeated when necessary. Acetanilid 4 gr soda bicarbonate 8 gr caffeine 1 gr likewise the bromides the author believes depress the excretory function and therefore he does not use them. Blandonna 15 gr is a suppository is quite potent

Of the organic extracts thyroid is the best — 10 to 15 grains a day being given for from 8 to 10 days preceding the date of menstruation

External applications are of distinct value. Various solutions of oil of wintergreen with or without menthol are suggested. Cocaine applied to the nasal mucous membranes is often very efficacious

Hot hip bath with mustard and turpentine tapers are always helpful

Other drugs that are often helpful are gelsemium chloral hydrate, apocynum, valerian, viburnum prunifolium and lastly asafoetida. The safety of ergot

Shaw W F: *The Subdivisions of Chronic Metritis* J Obst & Gynec & Surg 19 4 xvi 73

By Surg Gynec & Obst

The author insists upon the use of the term chronic metritis for the clinical entity including a uterus that is symmetrically enlarged and hard containing no fibromyomata or malignant disease and which causes hemorrhage, pain, or leucorrhoea or a combination of these. He divides these conditions into two groups

1 Chronic subinvolution characterized by a regularly enlarged hard uterus with symptoms of hemorrhage, pain or leucorrhoea, hemorrhage being by far the most constant symptom in cases which one or more pregnancies have preceded

2 Hypertrophic uterus characterized by the same clinical symptoms and findings but which have never been pregnant

Shaw objects to the term fibrosis uteri applied to the first group and shows from his specimens that the increase in the size of the uterus is due to a very small part to increase in fibrous tissue to a great extent to increase of elastic tissue and to the greatest extent to increase of the amount of muscular tissue the increase being due to perfect involution. In fifteen of the twenty specimens of this group the endometrium was markedly increased in thickness only nine of them showed evidence of previous inflammatory reaction. The author does not claim that the condition is directly produced by inflammation

In the second group of which Shaw reports 10 specimens the uterine walls were considerably thickened but the most marked feature was a enormous increase in the thickness of the endometrium. The last six followed the same arrangement in the vagina and there was no increase in the percentage of the fibrous tissue. The blood vessels were not increased in number or size. The increase in thickness of the uterine wall is produced by a definite hypertrophy of all its constituents

The endometrium is primarily at fault in these cases becoming thickened from some cause unknown. It then acts as a foreign body thus causing uterine contractions especially at the menstrual periods and so brings about a work hypertrophy

These two groups can always be distinguished by the arrangement of the elastic tissue

Nulliparous and parous uteri can always be distinguished by the arrangement of the elastic tissue also (1) in a nulliparous uterus the elastic tissue is confined chiefly to the internal elastic lamina blood vessels which are only very thin fibrils in the media adventitia and between the muscle fasciculi of the mesometrium (2) in a parous uterus some thick strands of elastic tissue are always found surrounding some of the blood vessels

In the subinvolution form large deposits of elastic tissue are found in the walls and around the blood

Lenormant G. and Petit Dutailh D : Indications and Results of Bouilly's Operation: High Amputation of the Cervix and Colpectomy in Genital Prolapse (Indications et résultats de l'opération de Bouilly amputation haute du col et colpéctomie dans les prolapsus génitaux) *Gy et Par* 1914 xviii 24

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. 3 d. G. engeb

Of the three methods of operation—(1) colporrhaphy and ventrofixation of the uterus (2) total extirpation and plastic operation on the vagina and perineum (3) high amputation of the cervix and plastic operation on the vagina and perineum—the latter is described in detail. There is hypertrophy and metritis of the cervix with cystic degeneration laceration ectropy and erosion and taper like cervix. High amputation of the cervix removes the hypertrophied and infectious parts, decreases the size and weight of the uterus and indirectly leads to involution of the remaining part of the uterus. The anterior colporrhaphy overcomes the cystocele and acts favorably on the retroversion of the uterus by traction, while the posterior colporrhaphy overcomes the rectocele, narrows the vagina, closes the vulva, and gives the entire genital tract a firm support. It is well to precede this threefold operation by a curettage; for otherwise the curettage may have to be done afterward to insure complete success.

The operative technique is described in detail. Among 15 cases fixation of the uterus was necessary in only two. Among complications are mentioned injury of the bladder and opening of the posterior Douglas pouch. The latter occurred 4 times in the 15 cases. It does no harm but care should be taken not to open the rectum. Sometimes hæmorrhage is difficult, to avoid the necessity for total extirpation it is well to ligate the uterine vessels. Secondary hæmorrhage and hæmatomata in the cervical stump may occur and the latter may suppurate.

Among the 15 women treated 4 were examined afterward some of them as late as 8 years. In these there were good mechanical and functional results. The recurrences involved only the vagina not the uterus. POWERS

Jelliff H : The Relation of Theory and Practice in the Operative Treatment of Genital Prolapse. *Med Press & C* 1914 cxix 39

By Surg. Gynec. & Obst.

The author discusses the structures concerned in genital prolapse and urges the use of more rational operative methods in order to secure lasting repair. The recent tendency to adopt new methods and seek a panacea for all forms and grades of prolapse without regard to the individual needs of the case is deplored. Immediate relief is not always based upon an attempt to restore preexisting normal conditions. The fallacy of various popular operative methods is demonstrated. An accurate knowledge of the normal supports and relations of the pelvic organs is essential to insure permanent results by operative means, since all cases of genital prolapse differ in form or extent and must be studied individually

from an anatomical standpoint. The anatomy of the female pelvis is peculiarly difficult to study in the dissecting room because of the misleading effect of post mortem changes and preservative processes. For accurate study the cadaver dissections should be supplemented by observations on the living subject.

The direct supports of the vagina and uterus are described and classified as follows:

1. *Vagina* (1) The converging planes of the levator ani muscle with its investing fascia (2) the vaginal suspensory ligaments bands of connective tissue extending from the ischiatic spines inward and downward to the sides of the vagina—these are practically continuous with the uterosacral ligaments (3) the attachment to the cervix which in turn is supported by the uterosacral ligaments and endopelvic fascia.

2. *Uterus* (1) Its vaginal attachment (2) the uterosacral ligaments (3) different layers of endopelvic fascia extending laterally and anteriorly. The former are Mackenrodt's or the cardinal ligaments underlying the uterine vessels. The latter are the anterior false ligaments of the bladder investing the urethra and attached to the pubes. Indirectly the uterus is supported by the general resistance of the pelvic floor toward which in its normal position the uterus presents its area of greatest expanse.

The structures giving direct support may all be identified in the living subject. In particular the posterior attachments of the uterus and vagina may be palpated by a finger in the rectum while traction is made on various points of the cervix and vagina.

The results of injury upon the supports above noted are described in order and special stress is laid upon the sequence of events in the development of general prolapse due to puerperal injury. Probably in most cases, after descent of the lower third of the vaginal wall— anterior wall posterior wall or both—the vault of the vagina sags downward because of stretching of the vaginal suspensory ligaments. The uterus eventually tilts backward either because of its own weight and general relaxation of the ligaments or because of a traction forward upon the cervix by the relaxed anterior vaginal wall. The uterus falling into the axis of the vagina loses its indirect support and its entire weight falls upon the uterosacral ligaments. Fascial tissue is strong but inelastic and stretches under continuous strain. As a third stage the middle third of the vagina descends and the prolapse is complete. Occasionally an extensive supravaginal cervical hypertrophy seems to indicate that the vault of the vagina has exerted long continued traction before the uterus has begun to descend.

Among complications is mentioned cystocele—the most common—its cause and its important rôle in the causation of retroversion and descent of the uterus.

A close study of prolapse shows that the complete stage is a result of an initial fault which alters the

normal distribution of weight on the suspensory mechanism. The initial fault and subsequent happenings must be studied before repair is attempted. At descent will not recur as a result of leaving the weak point. Ventral fixation failed because the uterus was still in position to descend into the vagina. Extensive plastic vaginal operations failed because the wedge-shaped uterus was still capable of distending the vagina. Hysterectomy also was unsuccessful since the vaginal vault frequently prolapsed afterward.

A rational operation for prolapse consists of three parts: (1) the restoration of the direct supports of the uterus and vagina so far as possible; (2) the placing of the uterus in such a position that it offers the maximum resistance to descent; (3) the removal of complications and associated conditions the result of prolapse.

Four important structures of direct support to the uterus and vagina require attention: viz (1) uterosacral ligaments, (2) endopelvic fascia, (3) suspensory ligaments of the vagina, (4) levator ani muscle.

Shortening of the uterosacral ligaments may be done by Wertheim's abdominal operation or by the author's method *per vaginam*. Wertheim's interposition operation mentioned below especially calls for this when the uterus is small. The author is not convinced that Mackenrodt's ligaments have much supporting value but where they may be short, the procedure should help support the cervix. Care should be taken not to kink the ureters which lie in this region. These are moderately shortened by supravaginal amputation of the cervix. The vaginal suspensory ligaments are important and should be shortened but no practical method has been devised because of their inaccessibility. Bishop's method of internal suture of the vaginal vault is not justified because of the necessity of opening the peritoneum. Restoration of the levator ani muscle is easy and essential. The normal anteverted position of the uterus may be restored by shortening of the round ligaments or by ventral suspension in childbearing women. Wertheim's interposition operation is the most valuable in cases past the menopause or in which there is no obstacle to the production of artificial sterility. The uterus is brought forward and fixed between the bladder and vagina the by supporting these organs as well. Brief mention is made of the various complications of genital prolapse and methods of their removal suggested.

S B TAYLOR

Novak, E.: The Surgical Treatment of Complete Prolapse of the Uterus. *J. Gynec. & Obst.* 9:4 1242. By Surg. Gynec. & Obst.

The Watkins Schauta interposition operation was performed in 26 cases of complete prolapse. With one exception the results were excellent. The one unsatisfactory result was in a case of fifteen years duration with enormous outlet and attenuation of the levator ani.

The two principal factors which govern the choice of operation for complete prolapse are on the one hand the desire of the patient to get permanently well, and on the other the desire for more children. The Watkins Schauta procedure combined with sterilization is indicated even in the case of the child bearing woman with extensive prolapse who has had a number of children and whose sole desire is to get well irrespective of the possibility of future pregnancies. Unless the uterus is very small and atrophic so that it offers no support to the bladder or unless there is a suspicion of malignancy it is better to retain it. When hysterectomy is deemed advisable good results are obtained by the operation advocated by Goffe. The cervix should be amputated only when long and hypertrophic or when it is the seat of ulceration. A properly performed perineorrhaphy is essential to the success of the interposition operation.

ADNEXAL AND PERIUTERINE CONDITIONS

Solowjew T. A. Relation of the Abderhalden Reaction to the Secretion of the Ovary (Zur Frage der Beziehungen der Abderhaldenschen Reaktion Sekretion des Ovariums). *Zentralbl. f. Gynäk.* 9:4 xxxvii, 6. By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

The author had positive results with the Abderhalden reaction in all cases of known pregnancy but in cases of gynecological disease and in perfectly normal women the reaction was sometimes positive and sometimes negative. The experiments showed too that there was a difference in the reaction with the serum of men and that of non pregnant women. The author assumes that this is due to the fact that in sexually mature women the ovary has an effect on the fermentative activity of the serum.

Barvo Wolff

Jakobson W. L. Condition of the Ovaries after Removal of the Uterus (Das Verhalten der Ovarien nach Entfernung des Uterus). *J. Gynäk. u. Geburtsh.* St. Petersburg 9:4 xxxix 709. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Microscopic examination of the ovaries of 10 dogs three and three and one half years after extirpation of the uterus showed contraction of the cortical layer, normal primordial follicles, all transition stages to graafian follicles and well developed corpora lutea. The number of primordial follicles as compared with the normal was apparently decreased and there were also many atretic forms. These phenomena as well as a marked development of connective tissue in the cortical layer indicated trophic disturbances.

II 12

Goldspohn A. Resection of Ovaries. *Tw. 1. Obst. & Gynec.* Bull. 10, 9:4 Sept. By J. Gynec. & Obst.

The theoretical objection to this procedure that all cystic or hydropic graafian follicles contain nor-

fascia is separated the rectum is dissected with the hand as far as the promontory and is then incised transversely with scissors. The pelvic end which is to form the vault of the vagina is sutured with catgut and the oral end is drawn through the sphincter ani. The mucous membrane is sutured to the inner edge of the anus and the skin incision is closed except for a gauze wick. The new vagina rectum are tamponed with gauze and an operation is instituted. Three months after the operation cohabitation with uterine pain is possible. The author points out the advantages of a rectal vagina over one made from small intestine.

H. R. C.

Stern R.: Adenoma Hidradenoides Vulvae (Adenoma hidradenoides vulvae). *Monatsh. f. Geburt u. Gynäk.* 1914, 11, 7.

By Zentgraf I. d. Ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author gives a histological description of a nodule as large as a cherry that was removed from the left labium majus. It consisted of glandular tubes lying close to one another with a slight connective tissue stroma. The glands were lined with very regular cylindrical epithelium. Connection with the surface epithelium or with a skin gland could not be demonstrated in serial section, but there seemed to be a connection with a malformed sweat gland. The tumor at any rate showed the histological characteristics of a sweat gland.

R. H. C.

Jellett H.: The Suture of the Levator Ani Muscle in Perineorrhaphy Operations. *S. & Gynec. & Obst.* 1914, 11, 346. By S. R. Gynec. & Obst.

Jellett calls attention to the fact that in all the perineorrhaphy operations the suture of the levator muscle was neglected and he thinks that many modern gynecologists neglect muscle suture also because they have been led to believe that the operation was difficult and complicated. Ardnig and Martin of Bumm's clinic he thinks are especially responsible for this belief. Ardnig believed that the deep transversus perine muscle could easily be mistaken for the levator ani muscle and that the former was frequently sutured instead of the latter while both writers considered that the suture of the levator involved a deep and extensive dissection.

Jellett points out how impossible it is for the deep transversus perine muscle to be found as a definite structure in a multipara with a torn perineum and how equally impossible it is that such a fragmentary muscle could yield any support as Ardnig seemed to suggest. He then discusses the position of the levator muscle and points out the means by which it can be identified positively. He further states that in 346 operations for chronic perineal laceration at the Rotunda Hospital the levator ani was sutured in practically every case. He does not claim any special originality for the operation which he describes but he considers that it offers an effective answer to those who insist that suture of the muscle is difficult and

dangerous. The essential features of the operation are as follows:

1. The careful removal of the necessary vaginal mucous membrane from the rectum.

2. The exposure and suture of the levator ani muscle.

3. The careful approximation of the cut edges of the vaginal mucous membrane in such a manner as to leave no projection or redundancy.

A detailed description of the operation is given, the close of which attention is called to the necessity of firmly plugging the vagina in order to prevent collection of blood in any dead spaces between levator muscle and the vaginal mucous membrane. The operation he describes was usually performed in less than ten minutes and very rarely took more than fifteen minutes. The advantages of the operation are so obvious as to require no further mention but to emphasize them he shows four diagrams which he made from two cases of perineorrhaphy. In one of these cases the muscle had not been sutured in the other the muscle had. In both cases the external appearance was identical but only in the operation in which the muscle had been sutured failed altogether to produce a satisfactory support. His conclusions are as follows:

1. Routine suture of the levator muscle is an essential part of perineorrhaphy.

2. Routine suture is always practicable when the muscle is wanting owing to atrophic injury.

3. The posture and suture of the levator muscle is neither difficult nor dangerous.

MISCELLANEOUS

Ruiz J. L. On the Use of J. Franquet's Operation in the Treatment of Radiotherapy in Gynecology. *Umschau d. Med. u. d. Strahlentherapie* 1914, 11, 346. By Zentgraf I. d. Ges. Gynäk. u. Geburtsh. d. Grenzgeb.

In radiotherapy of uterine disease roentgen rays are almost exclusively used although radium sootherium has given good results in some cases but with the latter treatment hemorrhage is a frequent complication.

Cases that do not show any pathological changes are best suited for radiotherapy. Radiotherapy should be used instead of cauterization when there is menorrhagia that cannot be stopped in any other way and when menorrhagia can be excluded without the use of radium. In women the fact must be taken into consideration that conception will probably not occur and does not depend upon the development of the fetus prevented by the injury to the ovaries. Cauterization and microscopic examination of the cervix should be made in order to avoid overlooking carcinoma of the body of the uterus. The treatment of menopause are mild.

In radiotherapy of myomata roentgen rays are also used almost exclusively in multiparae.

vaginal and especially intra uterine treatment should not be used. In the use of radium and mesothorium care should be taken to avoid irritation of the peritoneum and exudates. It must be admitted that amenorrhea is sometimes attained more quickly with mesothorium than with röntgen rays but there is no decrease in the size of the myoma. Indications for röntgen treatment are intramural and submucous myomata, if malignancy can be excluded with certainty. As a result of the treatment amenorrhea and contraction of the myoma sometimes completely disappear. Some cases however remain unchanged. The cures average 80 per cent and there are seldom any injurious by-effects. The contra indications are myoma with symptoms of incarceration on pressure symptoms with necrosis or suppuration—in other words complications that of themselves demand operation or when the patient must resume work quickly. Sometimes if radiotherapy is ineffective operation still has to be performed.

In inoperable cases of carcinoma of the female genitalia especially the uterus radiotherapy brings about improvement in the general condition lessening of the pain and sleeplessness and increase in weight. Hemorrhage and secretion disappear the crater sometimes closes, and in place of the carcinoma sound tissue appears covered with normal epithelium. Metastases sometimes show retrogression but never entirely disappear. In radiotherapy care must be taken to avoid too large doses, as they sometimes make the general condition worse. In operable cases, if the surgeon feels sure that operation will be effective it should be performed otherwise intense radiotherapy should be used and this also in cases where other diseases prohibit operation. Primary carcinomata generally react better than recurrences. In recurrence the earlier the patient is treated the better the prospects. After operations for recurrence prophylactic radiotherapy is earnestly recommended, and it should be carried out for a long time with tolerably large doses.

The best treatment is a combination of röntgen rays with radium or mesothorium. The average total dose is 40 to 100 full doses of röntgen rays and about 6,000 to 10,000 milligram hours every two weeks.

The best filter for röntgen rays is 3 mm. aluminum for mesothorium or radium 0.2 mm. silver tubes and 3 to 4 mm. lead filter nickelplated copper case and a lead filter covered with aluminum and rubber.

IMMELMAN.

Kell G. Techniqu of Mesothorium Treatment in Gynecological Cases (Technik der Mesothoriumbehandlung in bei gynäkologischen Fällen). *M. h. n. med. H. A. 4* 9, 4, 12, 3. 03.
By Zentralbl. f. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The author gives a review of the cases of gynecological carcinoma treated with mesothorium by Prof. Klein of Munich. He treats carcinoma by a

combined method (1) repeated moderate doses of mesothorium not less than 50 mg. and generally not over 100 mg. (2) simultaneously intravenous infusions of enzytol radium barium selenate colloidal metals etc. (3) in the intervals between two series of mesothorium treatments röntgen treatment.

The technique consists of a series of three or four irradiations at intervals of three or four days. In intervals of one to two weeks intravene between series after improvement begins there are intervals of four to six weeks and even longer in the intervals röntgen treatment is administered. In the first treatments β and γ rays are all used in the later series only β and γ rays or only pure γ rays. Cases of recurrence in the scar are treated very carefully on account of the nearness of the ureters. Recently Keil has been using only brass filters since there are very few secondary rays.

The time the capsule is left in place varies but as a rule it is left about 10 to 18 hours in small tumors 6 to 8 hours in recurrences in the scar only 1 to 2 hours. The blood and urine are examined before and after irradiation. In one case of carcinoma of the tongue the sugar in the urine disappeared permanently after mesothorium treatment. Among 40 gynecological cases in 11 there were no clinical signs of carcinoma after the treatment. In one case of metastasis of chorio epithelioma mesothorium treatment had astonishing results. Three cases that had been regarded beforehand as hopeless died. The remainder are still under treatment. Improvement has been noted in almost all of them.

HIESCH.

Peterkin G. S. A New Method of Diagnosis to be Employed to Elucidate Pathological Conditions of the Female Genito-Urinary Organs. *Urol. & Gyn.* Nov. 19, 4. xviii. 455.

By Surg. Gynec. & Obst.

The author presents a method of genito urinary diagnosis in women consisting of a series of X ray plates of the pelvis taken after the insertion of a special metal cervical pessary. Ureteral catheters and bladder instillation with silver iodide are used in conjunction with this pessary to demonstrate the relative position of the pelvic organs. The idea was suggested by the author's experience in cases of frequent and painful urination without urinary changes which symptoms he considers referable to a dragging of the uterus and cystocele upon the ureters and kidneys. The object was to gauge and demonstrate accurately the position of the cervix in the pelvis and its relation to other organs to verify his theory to secure aid in the diagnosis and treatment of other malpositions of the pelvic organs. If the situation and mobility of the uterine cervix could be accurately determined the effect of various positions of the uterus on the bladder and kidneys and also the result of extra abdominal pressure on the urinary and other pelvic organs would become a matter of knowledge.

fascia is separated the rectum is dissected with the hand as far as the promontory and is then incised transversely with scissors. The pelvic end which is to form the vault of the vagina is sutured with catgut and the oral end is drawn through the sphincter ani. The mucous membrane is sutured to the inner edge of the anus and the skin incision is closed except for a gauze wick. The new vagina and rectum are tamponed with gauze and an opium suppository inserted. Three months after the operation cohabitation without pain is possible. The author points out the advantages of a rectal vagina over one made from small intestine.

Hmscn

Stern R: Adenoma Hidradenoides Vulvae (Adenoma hidradenoides vulvae) M 11 h f G b 14 Gy 2k, 10 4 12 7 7 By Ze tralbl f d ges Gynäk Geb rth d Grenzgeb

The author gives a histological description of a nodule as large as a cherry that was removed from the left labium majus. It consisted of glandular tubes lying close to one another with a slight connective tissue stroma. The gland were lined with very regular cylindrical epithelium. Connection with the surface epithelium or with a skin gland could not be demonstrated. Serial sections but there seemed to be a connection with a malformed sweat gland. The tumor at any rate showed the histological characteristics of a sweat gland.

RCHENA 4

Jellett H: The Suture of the Levator Ani Muscle in Perineorrhaphy Operations. Surg Gynec & Obst 9 4, 12 346 By S rg Gynec & Obst

Jellett calls attention to the fact that in all the old perineorrhaphy operations the suture of the levator muscle was neglected and he thinks that many modern gynecologists neglect muscle suture also because they have been led to believe that the operation was difficult and complicated. Krönig and Martin of Bumm's clinic he thinks are especially responsible for this belief. Krönig believed that the deep transversus perinei muscle could easily be mistaken for the levator ani muscle and that the former was frequently sutured instead of the latter, while both writers considered that the suture of the levator involved a deep and extensive dissection.

Jellett points out how impossible it is for the deep transversus perinei to be found as a definite structure in a multipara with a torn perineum and how equally impossible it is that such a fragmentary muscle could yield any support as Krönig seemed to suggest. He then discusses the position of the levator muscle and points out the means by which it can be identified positively. He further states that in 346 operations for chronic perineal laceration at the Rotunda Hospital the levator ani was sutured in practically every case. He does not claim any special originality for the operation which he describes but he considers that it offers an effective answer to those who insist that suture of the muscle is difficult and

dangerous. The essential features of the operation are as follows:

1 The careful removal of the necessary amount of vaginal mucous membrane from the rectum.

2 The exposure and suture of the separated levator ani muscle.

3 The careful approximation of the cut edges of the vaginal mucous membrane in such a manner as to leave no projection or redundancy.

A detailed description of the operation is given, and the close of which attention is called to the necessity of firmly plugging the vagina in order to prevent the collection of blood in any dead spaces between the levator muscle and the vaginal mucous membrane. The operation he describes was usually performed in less than ten minutes and very rarely took more than fifteen minutes. The advantages of positive suture are so obvious as to require no further mention but to emphasize them he shows four diagrams which he made from two cases of perineorrhaphy. In one of these cases the muscle had not been sutured in the other the muscle had. In both the external appearance was identical but otherwise the results in which the muscle had not been sutured failed altogether to produce a sufficient vaginal support. His conclusions are as follows:

1 Routine suture of the levator muscle is an essential part of perineorrhaphy.

2 Routine suture is always practicable except when the muscle is wanting owing to atrophy after injury.

3 The exposure and suture of the levator muscle is neither difficult nor dangerous.

MISCELLANEOUS

Ru g E von Veit J., Franqué O von and Others: Value of Radiotherapy in Gynecology. Umfrage über die Bedeutung der Strahlentherapie (in der Gynäkologie) Med Klin Berl 19 4 9 59 9

By Zentralbl f d. ges. Gynäk u. Geburtsh. u. d. Grenzgeb.

In radiotherapy of uterine disease roentgen rays are almost exclusively used although radium and mesothorium have given good results in some cases, but with the latter treatment hemorrhage readily reappears. Cases that do not show any pathological histological changes are best suited for radiotherapy.

Radiotherapy should be used instead of total extirpation where there is menorrhagia that cannot be stopped by any other way and when malignant disease can be excluded with certainty. In young women this fact must be taken into consideration that conception will probably not occur and if it does the proper development of the fetus will be prevented by the injury to the ovaries. Curettage and microscopic examination of the fragments should be made in order to avoid overlooking a carcinoma of the body of the uterus. The symptoms of the menopause are mild.

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vaginal and especially intra uterine treatment should not be used. In the use of radium and mesothorium care should be taken to avoid irritation of the peritoneum and exudates. It must be admitted that amenorrhoea is sometimes attained more quickly with mesothorium than with roentgen rays but there is no decrease in the size of the myoma. Indications for roentgen treatment are intramural and submucous myomata if malignancy can be excluded with certainty. As a result of the treatment amenorrhoea and contraction of the myoma sometimes completely disappear. Some cases however remain unchanged. The cures average 80 per cent and there are seldom any injurious by effects. The contra indications are myoma with symptoms of incarceration on pressure symptoms with necrosis or suppuration—in other words, complications that of themselves demand operation or when the patient must resume work quickly. Sometimes if radiotherapy is ineffective operation still has to be performed.

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HENSELMANN

Keil, G. Technique of Mesothorium Treatment in Gynecological Cases (Technik der Mesothoriumbehandlung bei gynäkologischen Fällen). *Arch. med. Naturgesch.* 1914, 10, 4, 131-48.
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OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Emman F T Van Placenta Prævia J Mo Si M
Ass 1914 xi 18 By Surg Gynec & Obst

Van Eman discusses the symptoms differential diagnosis and treatment, as well as the theories advanced as to the probable cause of placenta prævia and quotes statistics showing the relative mortality of mother and child.

The relative merits of the various forms of treatment are discussed at length especial attention being paid to cesarean section the author favoring the latter. The opinions of various American obstetricians are quoted most of whom prefer cesarean section under favorable conditions.

The author reports two cases successfully terminated the one by manual dilatation and extraction the other by cesarean section and arrives at the following conclusions:

- 1 Placenta prævia of any type is pathologic
- 2 The mother's life is of first importance
- 3 Placenta prævia positively diagnosed at any time up to the end of the seventh calendar month calls for the immediate termination of pregnancy. If the child is viable abdominal section may be the method of choice

4 Bleeding hasing slight the patient being at or near term with any type of placenta prævia delivery may be made by the method best handled by the accoucheur—Braxton Hicks metureuryus or preferably cesarean section.

5 In the central type at or near term abdominal cesarean section is the safest for both mother and child providing the possibility of infection is at the minimum the environments suitable and the mother's condition justifies the operation.

REINHARD E. WOLFE

Rouffart E Treatment of Extra Uterine Pregnancy (Quelques considerations sur le traitement de la grossesse extra utérine) (d g fr 94 xi 16)

By / Zentrall f d ges Gyna u Geburtsh u d Grenzgeb

The appearance of sudden severe hemorrhage is an indication to immediate peritonectomy. Hemorrhage indicates laparotomy. doubtful diagnosis puncture of Douglas pouch. In hematoma of Douglas pouch peritonectomy should not be performed too soon rest in bed ice bags and morphine should be tried first. After the appearance of symptoms of peritonitis the treatment should consist of hot compresses vaginal fouches and salt baths. The appearance of hemorrhage or failure to absorb is an indication for laparotomy with abdominal drainage. In exceptional cases hysterectomy for the purpose of drainage may become necessary. In septic or suppurative infection of the hematocoele treatment as in pelvic abscess by colpotomy should be adopted or later in the afebrile stage laparotomy should be done to overcome symptoms that still persist.

In extra uterine pregnancy the uterus is slightly increased in size with a soft painless tumor in the region of the tube not sharply circumscribed. Often there is colostrum in the breasts and cyanosis of the vagina. Menstruation may cease or be slight in amount but sometimes it is profuse. Often the patient complains of a dull pain.

In interstitial pregnancy resection or extirpation of the uterus is generally necessary. In advanced or full term extra uterine pregnancy with a living child laparotomy should be done and as thorough removal as possible of the membranes the wall of the tube, and the placenta. The latter is generally impossible on account of the insertion of the placenta into abdominal organs for instance the intestine.

Tamponing should be done after the operation. If the child is dead operation should not be performed until after the involution of the vessels of the placenta later there should be mummification or lithopedion extirpation of the encapsulated fetus as in dermoid. In suppuration of the amniotic sac fistulae are generally formed. Dilatation of the fistulae should be followed by laparotomy to remove the parts that hinder closure of the fistulae.

II RECH

Kohler R. Ovarian Pregnancy (Tra d t on n is) Gy sk R dschau 914 xi 75
By Zentrall f d ges Gyna u Geburtsh u d Grenzgeb

Laparotomy was performed on a 43 year-old patient because of a suspected ruptured tubal pregnancy. In the abdominal cavity much liquid and clotted blood was found but both tubes were normal. The fimbriae were free the left ovary normal the right ovary enlarged and at its median pole there was a bluish shimmering cyst as large as a dove's egg. The removal of the right adnexa was followed by recovery. Histological examination of the specimen showed that there was an undoubted follicular pregnancy. The embryo was not found but villi were. The demonstration of luteal cells in the wall of the cyst and its intimate contact with the ovum confirmed the conclusions that the ovum had been implanted in the follicle and that the development of the corpus luteum and of the ovum had proceeded simultaneously. There were no proofs of a direct implantation of the ovum in the wall of the follicle but it seemed more probable that the implanted ovum had become implanted in the blood.

of the ruptured follicle. The causes of implantation of the ovum in the follicle are discussed. In this case there were none of the factors present that are given by most authors as causative of ovarian pregnancy such as infantilism, abnormal length of the tube, or coiling of the tube or inflammatory changes. **ISERVACU**

Verdeil G: Repeated Cesarean Section (Per 1 tiglio casarro ripet to) R i gna d let e g c 19 4 3 83 60 1
By Zentralbl f d ges Gynäk u. C b rish. s d Grenzgeb

The author collected 8 cases in which cesarean section was repeated on account of rachitic pelvis. He used silk and sutured the uterus in two layers and the abdominal wall in three layers. The pregnancies following cesarean section progressed well. On the succeeding laparotomy he found adhesions in six cases, once with the intestine, once with the abdominal wall and four times with the omentum. In one case in which cesarean section had been performed four times there were no adhesions. The uterine scar was always in good condition and no thinning of the wall of the uterus was observed. The results were always good; there were no hernias. Two of the children one of which was a twin died of asphyxia. The children of the second and succeeding pregnancies were of good weight, some of them weighing more than the first child.

The dangers and ill-effects of the repetition of laparotomy are discussed. The prognosis is not bad either in regard to capacity for work or to disturbances of the genital tract. Abortion cannot be attributed to a preceding cesarean section. Abortion after cesarean section should be attributed to the usual causes. Cesarean section should always be performed at the beginning of labor. In infected cases the extraperitoneal method should be chosen. **MISSTROV**

Shands, H R: Cesarean Section in Eclampsia South M J 9 4 vii, 727
By S rg Gynec. & Obst

After reviewing the literature on eclampsia, the author cites two or three theories or modes of treatment and is inclined to believe with the American school that rapid emptying of the uterus with the least trauma is best for both mother and child.

Stroganoff has recently reported 400 cases of eclampsia with a maternal mortality of 6.6 per cent under the conservative treatment of chloroform, chloral morphine, darkness and quietude. Lichtenstein had 60 consecutive cases with deaths thus he attributes to blood letting plus the Stroganoff treatment. L. Peterson of the American school empties the uterus as quickly as possible.

The author reports two cases in which he performed cesarean section for eclampsia, one under general anesthesia and the other under local. Both mothers and children recovered nicely. In these cases the cervix was intact and not dilated and the vagina was not infected. **ROGER CAR**

Rick, H. M.: Suprapubic Cesarean Section for Puerperal Eclampsia Am J Surg 19 4 xxvii, 334
By S rg Gynec. & Obst

Ricketts reviews the literature of cesarean section for eclampsia and gives statistics as to when it was done by whom it was done and the results of a great number of cases.

He quotes statistics compiled by Peterson showing the mortality as follows:

In 480 cases of eclampsia treated by abdominal cesarean section the maternal mortality before the aseptic era was 36.0 per cent and in 317 of this number since 1900 the mortality has been reduced to 3.1 per cent. In 245 cases without infection the mortality was but 2.1 per cent. In 317 cases since 1900 the fetal mortality has been 5.5 per cent. In 132 cases where the sections were performed after one to five eclampsia convulsions 3.7 per cent. The report shows that the severity of successful and unsuccessful cases operated on has been greater than those treated medically up to this date. Peterson's final conclusions are that the operative procedure should be selected which will empty the uterus the quickest with minimum trauma and shock to the eclamptic mother and child.

The fetal mortality generally has been from 4.4 to 5.4 per cent but this high per cent has been reduced to about 3 per cent. This would of itself indicate that the mortality of each may be reduced by early operation.

The author reports a number of cases, and concludes by outlining the history of the pre-operative and post-operative treatment of eclampsia.

A C STOKES

Hallmann: Post Mortem Cesarean Section (Über die Section casare post mortem) Festschr f Geburt u. Gynäk 974
By Zentralbl f d ges Gynäk Geburtsh. s d Grenzgeb

The following is the substance of the author's conclusions. Post mortem cesarean section gives 61.27 to 65.03 per cent living children. The prognosis is better for the child in sudden rapid and violent death diseases of the central nervous system of the heart and kidneys, than after long continued or infectious diseases, diseases of the blood or intoxications in which the blood is altered. The outcome is favorable for the child only if the operation is undertaken within 15 or 30 minutes after death. In private practice the consequence of the dying patient or the relative must be obtained.

Cesarean section just before death gives favorable results and may be performed in cases where it is certain that the child is living and that the mother is about to die. A consultation is advisable on account of the possibility of mistaken diagnosis. The operation may be performed from the seventh to the ninth month of pregnancy or even earlier if the history is defective. The conclusion the author gives is a tabulated review of 68 cases from the literature. **JANITS**

Devèze, L. A Case of Post Mortem Caesarean Section with a Living Child (Un cas de césarienne post mort en enfant vivant) *Bull Soc d'obst et d'gy de la Pa* 9 4 III 325
By Zentralbl f d ges Gyn u Geburtsh s d Grenzgeb

Caesarean section was performed on a patient who had died of tuberculosis of the larynx ten minutes before. The child was very deeply asphyxiated but was restored. The author points out the three important points in the technique (1) quickness of operation (2) strict asepsis and (3) long continued attempts at resuscitation of asphyxiated children.

In the discussion attention was called to the lack of legal decisions in regard to caesarean section on the dead in contrast with the Roman law. *TAZUUD*

Kreis, P. Tetanoid Symptoms in Pregnancy and the Puerperium (Tetanoid Symptome bei Schwangeren und Wöchnerinnen) *Ztschr f Geb rish u Gyn* 1914 LXVI 1
By Zentralbl f d ges Gyn u Geburtsh s d Grenzgeb

The mechanical and galvanic irritability of the facial nerve was tested in 50 pregnant women and 75 women in the puerperium. There were tetanoid symptoms in 60 per cent of the pregnant cases and in 50 per cent of all the puerperal cases.

The appearance of tetanoid symptoms in pregnancy and the puerperium is due to hypofunction of the epithelial bodies, which in turn is to be attributed to a deficiency of calcium in the organism on account of the increased demand for it in pregnancy and the puerperium. The best proof of this hypothesis is the therapeutic effect of the administration of large doses of calcium chloride in manifest tetany with its brilliant results. *SCHEER*

Henderson, D. K. Korsakow's Psychosis Occurring During Pregnancy. *Bull Johns H p k ns Hosp* 9 4 XXV 61
By Srg Gynec & Obst

Korsakow's syndrome consists of poor power of retention for recent events, disorientation for time and place, misidentifications and confabulations. This psychosis may develop during pregnancy and may or may not be associated with polyneuritis.

Henderson reports two cases of his own, reviews other case reports and reaches these conclusions:

1 The pregnant state must in certain cases be recognized as an important etiological factor in the production of peripheral neuritis, and of that condition known as Korsakow's syndrome.

2 The neuritis caused may be either (1) general, e.g. affecting all the limbs, or (2) local, affecting certain of the cranial nerves.

3 The mental disorder characteristic of the condition is usually associated with a general polyneuritis but as evidenced by one case reported it may occur alone.

4 The frequent history of hyperemesis gravidarum in association with the generalized forms of the disorder is so striking that it suggests a possible line of approach as to the elucidation of the nature of the toxin.

5 Those patients who in previous pregnancies have suffered from severe vomiting or other serious toxic phenomena should be strongly urged to avoid any further pregnancies. *WM H CARY*

Spies, T. Pernicious Vomiting of Pregnancy and Serum Therapy (Vomissements graves de la grossesse et sérothérapie) *Cl iqu Brux* 1914 XXV 337

By Zentralbl f d ges Gyn u Geburtsh s d Grenzgeb

Pernicious vomiting of pregnancy is an intoxication which is comparable to the dermatoses of pregnancy. Like the latter it frequently cannot be cured by ordinary medication and sometimes nothing except the interruption of the pregnancy cures the trouble. Some authors have tried the administration of adrenalin assuming that it was due to adrenal insufficiency. Good results have been obtained recently by serum from pregnant patients or by horse serum.

The author describes the case of a 29-year-old II para in which vomiting could not be controlled and artificial abortion was performed, followed by recovery. Two years later the woman again became pregnant and was very anxious to have a child. In spite of all possible prophylactic measures, pernicious vomiting began again. An injection of 10 ccm of horse serum was given and three days later the injection was repeated. This time followed by an eruption resembling urticaria. The vomiting as well as the profuse excretion of saliva was soon lessened. Normal delivery took place at full term. *KVOOR*

Brouha: Movable Spleen and Its Relation to Obstetrics and Gynecology (La rate ectopique dans ses rapports avec l'obstétrique et la gynécologie) *Scalpel Liège* 9 4 LXVI 650
By Zentralbl f d ges Gyn u Geburtsh s d Grenzgeb

Movable spleen is a disease of the female sex. Torsion of the pedicle of the spleen has never been observed except in women. The etiology of ptosis of the spleen is to be found in the pathological relations of this organ to the genital system, frequent congestion of the spleen during menstruation and enlargement of the spleen during pregnancy. The movable spleen may be ruptured during pregnancy by the pressure of the uterus—spontaneous rupture. A number of cases show the connection between delivery and the incidence of blood cysts of the spleen. Torsion of the pedicle is not frequent during pregnancy but often occurs after the emptying of the uterus. The results of operation in compression or torsion of the spleen during pregnancy and the puerperium are very favorable. In 12 cases there was only one death—8.3 per cent mortality.

The diagnosis of movable spleen is yet more important in gynecology as this condition may lead to many errors in diagnosis, especially when it is displaced into the pelvis. The form of the spleen is very important for even when it is enlarged it

keeps its characteristic form. Attention should be given to the disappearance of the normal splenic dullness though other factors may also play a part in this. It is important if the arterial pulse can be felt in an organ in the pelvis for this can never be felt in tumors of the genital system and a note of sonorous tympany between the tumor and the genital organs is especially significant. But even these diagnostic signs generally fail if there are adhesions between the spleen and the pelvic organs. A careful history is a valuable supplement to the physical examination. COTANAS

LABOR AND ITS COMPLICATIONS

Lipsky Comparative Value of Prophylactic Version High Forceps and Spontaneous Delivery in Contracted Pelvis, from the Material of the Moscow University Gynecological Clinic (Uspiechende Bewertung d. prophylaktischen Wendung mit der hohen Zange und d. spontanen Geburt bei Beckenenge nach dem Material der Universität Moskau.) *Festschrift für Prof. Dr. A. A. Moskau* 94. Geburtsh. u. Gynäk.

The material collected from January 1899 to January 1912 includes 7 cases of contracted pelvis with 1034 deliveries. Among 173 cases prophylactic version was practiced in 127 high forceps in 95 and delivery was spontaneous in 1,938. Of the 127 versions 86 were purely prophylactic 41 were performed after rupture of the membranes but always with a completely intact os. In primiparae the mortality of the children was 3.8 per cent in multiparae 8 per cent. The mortality of the children after rupture of the membranes is markedly higher — 44 per cent — than in purely prophylactic version 9 per cent. The total mortality was 4.4 per cent after deducting the cases of perforation of the aftercoming head the mortality was 0.7 per cent. Of the 127 mothers two died one of them from abortion — 6 and 0.8 per cent. The morbidity of the mothers was 6.3 per cent while after high forceps it was 18.35 per cent which to be explained by the fact that the trauma is much less in version.

High forceps were applied in 95 cases 54 times in flat pelvis 40 times in generally contracted pelvis. The children were dead in 17.3 per cent of the cases. Among 1,938 post-natal deliveries there were 132 dead children — 7 per cent. Aside from the macerated fetuses and those that had died before delivery the mortality was 5 per cent. In primiparae the mortality of the children was greater than in multiparae — 8.1 and 6.7 per cent. The morbidity as well as the mortality of the mothers was naturally much less in the cases of spontaneous delivery — and 0.2 per cent — which shows that spontaneous delivery should be accomplished if possible. All methods of delivery give poorer results generally contracted than in flat pelvis. The average weight of the children was highest in version lowest in spontaneous delivery. If high

forceps give pretty good results if the true conjugate is from 9 to 9 if the conjugate is less the results are bad while prophylactic version gives good results with a conjugate of from 8 to 8 and even less if used only in cases of flat pelvis. Further advantages of version are the low morbidity among the mothers and the shorter duration of labor.

JETTRE.

Pouillot L. Perineorrhaphy with Extensive Suture of the Levator as a Cause of Dystocia (La périnéorrhaphie à suture étendue du releveur de la vulve est une cause de dystocie.) *J. de méd. de Par.* 94.

By Zentralblatt für Gynäk. u. Geburtsh. d. Grenzgeb.

A primipara was delivered with forceps the result being a large tear of the perineum which did not heal. After six months a myorrhaphy was performed creating a firm thick perineum. In the second delivery the os dilated rapidly and the head descended to the floor of the pelvis, then could not rotate around the symphysis but bored down into the perineum so that it was shoved into a pocket. Attempts to deliver the head through the anus failed the post-natal commisure lay in front of the head like a firm crossbar. To avoid a central tear of the perineum an incision was made. As there was a justifiable doubt of the viability of the over-stretched tissues the tear was not sutured 16 days later after the discharge of necrotic tissue a secondary suture was made. This case gives food for thought. The restoration of the normal anatomical condition should be sought for but exaggeration of the natural condition by forcible pulling together of the entire muscle mass of the levator and suture has an unphysiological effect. In this case it interfered with delivery and it is only permissible in women who have passed the child-bearing age. POVRICK

Gussakovskii I. Value of Hysterotomy in Treatment of Contracted Pelvis (Zur Frage der Wertigkeit der Hysterotomie bei Beckenenge.) *Heckenroth's Zeitschrift für Geburtsh. u. Gynäk.* 94.

By Zentralblatt für Gynäk. u. Geburtsh. d. Grenzgeb.

In St. Petersburg Obstetrical Hospital 17 hysterotomies have been performed by Döderlein's method 7 of which are reported. The side on which the peratone was formed is not of great importance generally the side was chosen toward which the child's occiput was directed but when the peratone was repeated the intact side was always chosen. The hemorrhage was never severe and yielded to manual compression it always resulted from injury to the crura of the erector of the clitoris. After the incision delivery was always completed artlessly and though forceps extraction under the circumstances is technically very easy the author recommends expectant treatment vaginal tears may thus be avoided. The latter are caused in extraction by the again being injured by the sharp edges of the bone. All the mothers operated upon were dis-

charged in good condition and none of the children died as a result of the operation

From his own cases and those reported in the literature the author discusses the value of the operation in contracted pelvis with respect to its results for both mother and child. He thinks that if it is performed only on strict indications and under thorough asepsis it is deserving of a place among obstetrical operations. B. Orrow

Rooy A H M I Van Painless Deliveries (Über schmerzlose Geburten) *Nederl. m. and. h. v. verlosch. en vro. 3 9 4 m 188*
By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Grenzgeb.

A II para who was not aware of her condition lost her child in abortion by precipitate delivery and was accused of infanticide but was discharged since the possibility of a painless delivery could not be disproved. Van Rooy later treated the same patient and on one visit she complained that a few hours before she had discharged a considerable black mass. Examination showed that it was meconium and that the child's breech was already visible. She had absolutely no pain. Delivery was rapid and painless and the child weighed 4000 gms. The patient showed no signs of hysteria or tabes. Van Rooy points out the great medicolegal importance of such cases for in this case a judgment of experts might have condemned the woman. STRATZ

PUERPERIUM AND ITS COMPLICATIONS

Cramer H. Oil of Turpentine in the Prophylaxis and Treatment of Puerperal and Gynecological Infections (Das Turpentinöl in der Prophylaxe und Behandlung puerperaler und gynäkologischer Infektion) *Monatsh. f. Geburtsh. Gynäk. 9 4 xxxiv 789*

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

For 10 years Cramer has used oil of turpentine in the local treatment of puerperal infection. He claims that there is absolutely no danger in applying it inside the uterus. He uses the undiluted purified oil and applies it to the uterine mucous membrane with a gauze sponge. He thinks it has a marked disinfectant action and inhibits the growth of bacteria especially in fetid lochial secretion. This effect lasts for hours and even days as would be expected from the characteristic odor of turpentine. It causes no corrosion; it excites a marked leucocytosis and discharge of lymph over the whole surface to which it is applied. He recalls the appearance of aseptic abscesses after the injection of turpentine. He attributes the suppurative results often obtained especially in septic abortion to the formation of a wall of granulation tissue which hinders further absorption of bacterial products.

In infected abortion he empties and cures the uterus and afterward swabs the cavity with oil of turpentine. There is generally a prompt decline in the fever and he has never lost a case with this treatment.

The author has also used the turpentine treatment

with success when fever has persisted for several days after the emptying of the uterus. The method has also been used successfully in puerperal fever. The curve is especially characteristic in a case of puerperal fever following septic angina. A tampon wet with oil of turpentine has been successfully used where there was a fetid discharge after the application of an unclean tampon in placenta praevia. He has not made bacteriological and histological examinations but hopes that others will make such examinations and confirm his conclusions.

HUFFELL

MISCELLANEOUS

Pinard: Diagnosis of the Duration of Pregnancy and the Date of Its Beginning (Du diagnostic de la durée de la gestation et de sa durée) *B. il. m. d. 9 4 xxxiv 535*

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

It is impossible to determine in normal women at what time before the last menstruation impregnation took place. There is a period of about a month within which the time of impregnation cannot be determined. In women who menstruate irregularly this period is even greater. The data as to the first movements of the child are equally unreliable. Some women feel movements at the end of the third month of pregnancy some not until the fifth or sixth. Still others feel fetal movements long after the child is dead and some when they are not pregnant at all. The size of the uterus is the only thing from which reliable conclusions can be drawn and even this varies in different races. In French women the fundus reaches the umbilicus in the fourth month while Bumm has found that in German women this position is only attained in the sixth month.

Pinard does not believe it possible to determine the exact date of the beginning of pregnancy. The duration of pregnancy also varies. It is not always possible to tell absolutely from a newborn child whether the term of pregnancy has been normal or not.

As it is not known positively when pregnancy physiologically begins neither is it possible to determine the time of its physiological ending. The author does not acknowledge the limits of from 250 to 310 days that Bumm sets for the duration of pregnancy. French obstetricians do not admit the possibility of prolonged pregnancy. They believe that if a child is born 300 days after the last menstruation there has been delayed impregnation as Lataste has shown in experiment. STABLE

Puppel F. The Biological Pregnancy Reaction and Its Result in Practice (Die biologische Schwangerschaftsreaktion und ihre Ergebnisse der Praxis) *M. i. k. f. Geburtsh. Gynäk. 9 4 xxxiv 764*

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

After several experiments the biuret reaction was given up on account of the difficulty of interpreting

keeps its characteristic form. Attention should be given to the disappearance of the normal splenic dullness though other factors may also play a part in this. It is important if the arterial pulse can be felt in an organ in the pelvis for this can never be felt in tumors of the genital system and a zone of sonorous tympany between the tumor and the genital organs is especially significant. But even these diagnostic signs generally fail if there are adhesions between the spleen and the pelvic organs. A careful history is a valuable supplement to the physical examination. COURVASS

LABOR AND ITS COMPLICATIONS

Idelky: Comparative Value of Prophylactic Version. High Forceps and Spontaneous Delivery in Contracted Pelvis, from the Material of the Moscow University Gynecological Clinic (Vergleichend über die Ergebnisse prophylaktischen Wendungs- und der hohen Zange bei primären und secundären Contractura pelvis). *Archiv für Gynäkologie und Geburtshilfe* 1914, 109, 1-4.

By Zentralblatt für Gynäkologie und Geburtshilfe 1914, 109, 1-4.

The material collected from January 1909 to January 1911 includes 2727 cases of contracted pelvis with 1034 deliveries. Among 274 cases prophylactic version was practiced in 17 high forceps in 95 and delivery point neonatal 1948. Of the 17 version 56 were purely prophylactic 41 were performed after rupture of the membranes but always with a completely delayed labor. In primipara the mortality of the children was 18.40 per cent in multipara 22.8 per cent. The mortality of the children in version after rupture of the membranes is markedly higher—34 per cent in purely prophylactic version 34 per cent. The total mortality as a percentage after delivery in cases of contracted pelvis is 1.7 per cent. Of the 1034 deliveries two died, one of them from placental infarction—0.6 and 0.4 per cent. The mortality of the mothers was 0.3 per cent while after high forceps was 18.35 per cent while after the prophylactic version the fact that the trauma is much less.

High forceps were applied in 94 cases 9.1 per cent in primipara 40 times generally 0.4 per cent of the cases. The children were dead in 73 per cent of the cases. Among 1948 point neonatal 1948 there were 132 dead children—2 per cent. And from the malacrated fetuses and those that had died before delivery the mortality was 5.7 per cent. In primipara the mortality of the children was greater than in multipara—8.6 and 0.7 per cent. The mortality as well as the mortality of the mothers was naturally much less in the cases of point neonatal delivery—2 and 0.4 per cent—which shows that spontaneous delivery should be accomplished if possible. All methods of delivery are poor results in generally contracted than in flat pelvis. The average weight of the children was highest in version, lowest in spontaneous delivery. High

forceps give pretty good results if the true conjugate is from 9 to 10 cm if the conjugate is less the results are bad while prophylactic version gives good results with a conjugate of from 8 to 9 and even less if used only in cases of flat pelvis. Further advantages of version are the less morbidity among the mothers and the shorter duration of labor.

JAQUET.

Fouliot: Perineorrhaphy with Extensive Suture of the Levator as a Cause of Dystocia (La périnéorrhaphie et le rétrécissement du périnée). *Revue de Gynécologie* 1914, 10, 1-4.

By Zentralblatt für Gynäkologie und Geburtshilfe 1914, 10, 1-4.

A primipara was delivered with forceps the result being a large tear of the perineum which did not heal. After six months a myorrhaphy was performed creating a firm thick perineum. In the second delivery the os dilated rapidly and the head descended to the floor of the pelvis then could not rotate around the symphysis but forced down into the perineum so that it was shoved into a pocket. An attempt to deliver the head through the anus failed the posterior omphalocele was in front of the head like a firm crossbar. The central tear of the perineum an incision was made. As there was a justifiable doubt of the viability of the overstrained head the child was not sutured 16 days later after the discharge of necrotic tissue a second suture was made. The case gives food for thought. The reason for the normal anatomical condition should be sought for but exaggeration of the natural condition by forcible pulling together of the external os may be the factor and suture has an unhappy local effect. In this case it interfered with delivery not only perineal but in women who have delivered the child before age 15.

Cusanoff: Value of Hysterectomy in the Treatment of Contracted Pelvis (Le traitement du rétrécissement du bassin par l'hystérectomie). *Revue de Gynécologie* 1914, 10, 1-4.

By Zentralblatt für Gynäkologie und Geburtshilfe 1914, 10, 1-4.

In the St. Petersburg Obstetrical Hospital 7 hysterectomies have been performed by Doderlein which 7 cases are reported. The side on which the operation performed is not of great importance generally the side was chosen in which the bill or put was turned but when the perineum was ruptured the fact and was always chosen. The hemorrhage was never excessive yielded to manual compression it always resolved from the uterus corpus caecum in the clitoris. After the delivery was always completed ritually and though forceps extract under the circumstances is technically easy the author recommends persistent treatment as against the fact that the latter are caused by the sharp edges of the bones. All the mothers perished upon delivery.

charged in good condition and none of the children died as a result of the operation

From his own cases and those reported in the literature the author discusses the value of the operation in contracted pelvis, with respect to its results for both mother and child. He thinks that if it is performed only on strict indications and under thorough asepsis it is deserving of a place among obstetrical operations. B Orrow

Rooy A H M I Van Painless Deliveries (Über schmerzlose Geburten). *Nederl maand ch v*
verl k en v o uens 1914 n 288

By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

A II para who was not aware of her condition lost her child in abortion by precipitate delivery and was accused of infanticide but was discharged since the possibility of a painless delivery could not be disproved. Van Rooy later treated the same patient and on one visit she complained that a few hours before she had discharged a considerable black mass. Examination showed that it was meconium and that the child's breech was already visible. She had absolutely no pain. Delivery was rapid and painless and the child weighed 4,000 gms. The patient showed no signs of hysteria or tabes. Van Rooy points out the great medicolegal importance of such cases for in this case a judgment of experts might have condemned the woman. Str 72

PURPERIUM AND ITS COMPLICATIONS

Cramer H Oil of Turpentine in the Prophylaxis and Treatment of Puerperal and Gynecological Infections (Da Terpentin i u de Prophylaxe nd B ha dlung puerperaler und gynakologischer Infektionen). *M f k f G b rsh u G dk*
9 4 89

By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

For 10 years Cramer has used oil of turpentine in the local treatment of puerperal infections. He claims that there is absolutely no danger in applying it inside the uterus. He uses the undiluted purified oil and applies it to the uterine mucous membrane with a gauze sponge. He thinks it has a marked disinfectant action and inhibits the growth of life, especially in fetid lochia secretion. This effect lasts for hours and even a day as would be expected from the characteristic odor of turpentine. It causes no corrosion, it excites a marked leucocytosis and a high rate of lymphocytes in the whole surface to which it is applied. He recalls the appearance of aseptic necrosis after the injection of turpentine. He attributes the uterine results of it not only to especially aseptic abortion to the formation of a wall of granulation which lessens further absorption of lochia products.

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The author has used the turpentine treatment

with success when fever has persisted for several days after the emptying of the uterus. The method has also been used successfully in puerperal fever. The curve is especially characteristic in a case of puerperal fever following septic angina. A tampon wet with oil of turpentine has been successfully used where there was a fetid discharge after the application of an unclean tampon in placenta praevia. He has not made bacteriological and histological examinations but hopes that others will make such examinations and confirm his conclusions.

HUFFELL

MISCELLANEOUS

P nard Diagnosis of the Duration of Pregnancy and the Date of Its Beginning (D diagnosis d l age de la gestation et d sa durée). *B il m d*
19 4 xxvii 535

By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

It is impossible to determine in normal women at what time before the last menstruation impregnation took place. There is a period of about a month within which the time of impregnation cannot be determined. In women who menstruate irregularly this period is even greater. The data as to the first movements of the child are equally unreliable. Some women feel movements at the end of the third month of pregnancy, some not until the fifth or sixth. Still others feel fetal movements long after the child is dead and some when they are not pregnant at all. The size of the uterus is the only thing from which reliable conclusions can be drawn and even this varies in different races. In French women the fundus reaches the umbilicus in the fourth month while Bumm has found that in German women this position is only attained in the sixth month.

P nard does not believe it possible to determine the exact date of the beginning of pregnancy. The duration of pregnancy also varies. It is not always possible to tell absolutely from a newborn child whether the term of pregnancy has been normal or not.

As it is not known positively when pregnancy physiologically begins neither is it possible to determine the time of its physiological ending. Although it does not acknowledge the limits of from 20 to 310 days that Bumm sets for the duration of pregnancy, French obstetricians do not limit the possibility of prolonged pregnancy. They believe that if a child is born 300 days after the last menstruation there has been delayed impregnation. Lataste has shown in experiments.

STADLE

Puppel F The Biological Pregnancy Reaction and Its Result in Practice (Die biologische Schwangerschaftsreaktion u d ihre Ergebnisse der Pra). *M f k f Gebu t k Gynäk*
4 764

By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

After several experiments the biuret reaction was given up on account of the difficulty of its interpretation.

mother is in a certain sense a parasite hence if the mother does not get sufficient nutrition the foetus thrives at the expense of the maternal tissues. There is no uniform effect of maternal nutrition on the weight of the child. With very abundant administration of a certain element of food there may be an increased passage of this element into the foetus but on account of its aggressive character if the foetus is not sufficiently nourished, it strives to obtain material from the mother's reserve store. Therapeutic measures aimed at producing small children by undernutrition of the mother for the sake of making delivery easier not only fail in their purpose but may be directly injurious to the mother.

SIEBER

Treub H: Dermographism in Pregnancy (Schwangerschaftsdermographie). *Nederl m a dach v verlosch en vrouwen.* 1914, iii 28.
By Zentralbl f d ges Gynaek u Geburtsh s d Grenzgeb

By chance Treub discovered that when the skin of the abdomen of a patient in the late months of pregnancy was touched lightly white stripes appeared and remained for a greater or less time. On further examination he found that this phenomenon appeared regularly in pregnant women and sometimes during the puerperium. It never failed to appear in pregnant women when they were lying down but when they were standing sometimes it could not be elicited. The abdomen reacted promptly to the thigh and the arm little or not at all. Control experiments showed however that a similar dermatographism appeared in non pregnant women, men, and boys. He does not think therefore that the sign is pathognomonic of pregnancy but thinks that it indicates a slight pregnancy toxemia which favors vasomotor disturbance. The abdomen reacts because of the tension of the skin.

STRATZ

Roos van den Berg, W I: The Excretion of Creatin and Creatinin in Pregnancy Labor and the Puerperium (Die Ausscheidung gvo Kreatin od Kreatin bei Schwangerschaft Geburt und Wochenbett). *Dtsch m a dach v verlosch en vrouwen.* 1914, iii 94.
By Zentralbl f d ges Gynaek Geburtsh s d Grenzgeb

In order to secure authentic results meat was excluded from the diet of the patients used for the experiments. The determinations were made with out catheterization by Folin's method. In the examination which extended over several weeks 73 women in all were examined. Among the cases were 13 of eclampsia, 4 of them fatal, 12 of severe toxemias with one death from sepsis, 13 of albuminuria of pregnancy, 2 of chronic nephritis and 5 with out severe disturbances in metabolism among them 17 with pyelitis and cystitis, 5 with hydranmios, 1 with hydranmios mole and 2 with premature separation of the placenta. Detailed tables are given.

The author regards increased excretion of creatin and creatinin as a secondary symptom of pregnancy but thinks it has no value in differential diagnosis because it may appear elsewhere than in pregnancy

and may be lacking in pregnancy. It is not even pathognomonic of the toxemias of pregnancy. In the first few days of the puerperium creatin excretion increases markedly as a rule and generally disappears in the third to the fourth week. In pregnancy and in the first few days of the puerperium creatinin excretion is generally increased. Pregnancies with toxemias do not differ in these respects from normal pregnancies. Probably there is a direct connection between creatinin excretion and the increase in tonus of the uterine musculature.

STRATZ

Fabre and Petzetakis: Changes in the Jugular Pulse During Pregnancy (Modifications du pouls jugulaire pendant la grossesse). *Bull Soc d obst et de gy 1914*, i 309.
By Zentralbl f d ges Gynaek u Geburtsh s d Grenzgeb

The changes in the circulatory system during pregnancy are for the most part mechanical in nature. The heart is displaced during pregnancy the apex beat is outside the mamillary line the right boundary outside the right border of the sternum. There is no true hypertrophy. The first tone is frequently changed and the second tone reduplicated. Murmurs are generally functional in nature. The arterial and venous pulses are not changed.

The blood pressure is normal in normal pregnancy. In albuminuria there is increased blood pressure and bradycardia. Bradycardia also occurs in some cases without albuminuria in conjunction with a valvular second sound and also in the preeclamptic period. There is a fall in blood pressure in infectious diseases. There is irregularity in blood pressure in organic acquired heart diseases. In pernicious anemia there is a marked fall in blood pressure, accompanied by distention of the right side of the heart and extreme changes in the pulse curve indicating fatty degeneration of the myocardium which is found on autopsy.

MOSBACHER

Lindau G H: Study of True Adenoma of the Umbilicus (Ein Bt ag ur Ke ntn a des wahren Nabeltumors). *Stud Pth d Etw ik* 1914, i 375.
By Zentralbl f d ges Gynaek u Geburtsh s d Grenzgeb

Mintz in 1909 defined true adenomata of the umbilicus as tumors originating from remnants of the omphalomesenteric duct in the umbilical scar. The author has found only 6 cases reported in the literature and by the addition of two new cases he increases this number to 8. The first tumor which was as large as a walnut occurred in a 34 year-old woman the second in a 46 year-old woman measured 21 x 17 mm. The walls of all the glandular spaces in both of the tumors were covered with cylindrical epithelium in some places one layer in other places several layers. This epithelium was very similar to the primitive intestinal epithelium. In the second tumor there was beginning malignant degeneration and in the skin over it there was hypertrophy of the sweat glands which the author thinks

was due to the irritation caused by the growing and inflamed tumor he thinks both it and the tumor were part of an anomaly in development. A detailed microscopic description is given of a carcinoma of the umbilicus treated with radium and its glandular metastases in Douglas pouch and the peritoneum.

WEISSHAUPT

Schäfer and Haendly: Teratoma of the Umbilical Cord (Teratom d'r Nabelch.) *Fisch f G*

b 1 h u Gynäk 9 4 1931 393

By Zentralbl f d ges Gynäk u G birth d Cren geb

A tumor almost as large as a child's head was found in the course of an otherwise normal umbilical cord about 5 cm from the umbilicus. The tumor was cystic and on the inner wall the c were numerous small nodules. Microscopic examination showed that there were derivatives of all three germinal layers interwoven with each other in the tumor therefore showing that it was a teratoma of the umbilical cord. I L X TE

Buglia G Passage f the Products of Albumin Digestion from the Mother to the Fetus (Su l passage des produits de digestion des subit ces protéiques d la mère u fœtus) *Arch int d biol* 9 3 li 39

By Zentralbl f d ges Gynäk Geb rth d Cren geb

Products of pancreatic digestion (Witte Pepton) in physiological salt solution were injected intravenously into pregnant dogs. The amount of nitrogen not originating from proteins was determined in the blood of both mother and fetus before and after the injections. The albumin nitrogen was precipitated with a saturated solution of tartaric acid and Kjeldahl's method used to determine the total nitrogen in the filtrate and precipitate. In this way the transference of a certain amount of the product of digestion of the albumin bodies from the maternal to the fetal blood was demonstrated. After the injections the maternal urine showed a decrease in nitrogen probably a result of the increased secretory activity of the kidney caused by the injection of the hypertonic fluid. No marked difference could be noted between the allantoic and the amniotic fluid. HUBER

Graham L A The Origin and Nature of Fetal Movements *S G & Obst* 9 4 300

By Surg Gynec & Obst

Asphyxia of the fetus is sufficient grade will result in the production of fetal movements more or less severe. The movements thus produced vary from mere attempts at respiration, sometimes resembling the fetal hiccup of Mermann to more

general muscular contractions simulating the general convulsions of CO₂ poisoning seen in the adult. At times these movements are sufficiently violent to be seen through the abdominal wall as distinct shocks.

All of the generally recognized varieties of fetal movements except those concerned with swallowing and sucking have been produced experimentally by methods which induced an asphyxia of the fetus. The intra-uterine respiratory efforts are not accompanied by an aspiration of any appreciable quantity of fluid into the lungs and hence are not incompatible with life after birth. The explanation of this is not clear but probably the contact of the skin with the air is an important factor in opening up the respiratory passages. The hypothetical intra-uterine rhythmical respiratory movements of Abfield were not observed.

The suggestion is made that the various active movements of the fetus experienced by many pregnant women in the latter part of pregnancy are expressions of a more or less severe but usually transient asphyxia of the fetus.

Arnold J O Anwers to Some Practical Questions on the Use of Pituitary Extract in Obstetrics *P M J* 914 xvi 950

By Srg Gynec & Obst

The author takes up the various questions which are so frequently asked regarding the value indications for the use of and the contra-indications to the use of pituitrin in obstetrics. He advocates the safety first rule of giving pituitrin only in those cases where low forceps would be indicated if we did not have this or some other equally effective oxytocic. If used according to this rule it will greatly reduce the number of forceps deliveries and will be as free from danger as any other therapeutic agent and certainly as harmless in the hands of the average practitioner as the obstetric forceps. He can see no excuse for the very tense present day use of pituitary extract except the spirit of impatience and hurry which characterizes American obstetrics. The improper use of this extract has caused rupture of the uterus in a number of cases and death to the mother and the unborn child.

About a year ago Wagne of Vienna called attention to the dangers attending the use of pituitary extract in very anemic women or in those who have lost much blood stating that its effect on the coronary arteries in such cases may sometimes cause a fatal angina or collapse and death. The author has collected five cases which in his opinion are considered responsible for the child's death. C H D is

GENITO-URINARY SURGERY

KIDNEY AND URETER

Reich and Beresnegowski Study of the Adrenalin Content of the Adrenals in Acute Infections Especially Peritonitis (Untersuchungen über den Adrenalinhalt der Nieren bei akuten Infektionen besonders Peritonitis) Beitr. kl. Ch. 194 XCI 403

By Zentralbl. d. ges. Chir. Grenzgeb.

In 1909 Hornowski published a paper in which the statement was made that in fatal cases of anesthesia and in unexplained deaths from so called surgical shock there was an exhaustion of the chromaffin system and that possibly this was the cause of the sudden failure of the circulation. This caused Reich and Beresnegowski to undertake some experiments with a view to determining whether there were similar anatomical findings in the fall in blood pressure caused by peritonitis. The adrenalin content of the suprarenal glands was demonstrated histologically the demonstration being based on the affinity of the adrenalin containing medullary cell for chromium. The authors prefer the Giemsa stain recommended by Schmorl to von Wiesels method.

It may be regarded as proved that the chromium reaction is due exclusively to the presence of those adrenal substances that in biological experiments with the extract of the glands produce fall in blood pressure dilatation of the pupil and stimulation of smooth muscle and are commonly known as adrenalin and that moreover under normal conditions a marked chromium reaction can always be demonstrated histologically.

In experimental peritonitis in rabbit ending in death the authors found a marked decrease in chromaffin in the adrenals. Further experiment showed that the chromaffin reaction was influenced very quickly and intensely by acute general infections with bacteria and pneumococci but that if the infection was too cut death occurred before there was any marked effect on the chromaffin. The authors do not settle the question of whether the chromaffin substance was influenced to different degrees by intra and extraperitoneal infections. They believe that the influence on the chromaffin reaction and its effects on the extract in general infection is a primary rather than a secondary one in that it is caused directly by the bacteria themselves. They think the hypothesis correct that the fall in blood pressure in infection is primarily and in many cases almost entirely central vasomotor paralysis but that the infection is a peripheral hypotonia of the vessels caused by adrenal insufficiency that increases in the second part of the work they

tested Heldenhains treatment of fall in blood pressure from peritonitis with infusions of adrenalin salt solution. They showed that in normal rabbits copious injections of salt solution did not produce any disturbance of the balance of adrenalin production and that if adrenalin is artificially added in toxic quantities the adrenal glands of normal animals suffer a considerable decrease in their physiological adrenalin content. Parallel experiments in rabbits with peritonitis did not give uniform results. A stronger chromium reaction in peritonitis was not obtained by the use of adrenalin infusions. The decrease in chromaffin substance was the same in all animals dying of peritonitis whether they were treated with salt solution salt solution with adrenalin added or not at all.

From further experiments the authors concluded that in rabbits the course of an acute peritoneal infection is favorably influenced by injection of salt solution containing adrenalin but they could not tell whether the effect was due to the salt solution or to the adrenalin.

In the third part of the work they report the results of a study of the adrenals in man. If the results of animal experiments are to hold good in man it will be necessary to demonstrate histologically or chemically a decreased adrenalin content in cases of weakness of the circulatory system. Therefore they examined the adrenals of 27 patients who died of acute peritonitis and the organs in 12 cases of non peritoneal septic infection in 2 cases of hemorrhage and in 6 cases of chronic infectious diseases.

The human adrenal material seemed to the authors not well adapted to histological study of the anatomical condition of the chromaffin tissue during life and to conclusions as to its functional condition therefore they could attach full value to the chromium reaction in human adrenal glands only when it was positive. Negative reactions should be judged with great caution.

The conclusion reached by the authors is that acute fatal peritonitis in man does not cause the same uniform decrease in the chromaffin substance of the adrenal glands that is observed with peritoneal sepsis.

Kindley C. C. The Adrenals in Acute Infections. J. M. J. 194 95
By S. G. T. and H. T.

The writer reviews the history of the knowledge of the adrenal though in a stage from the 15th century down to the present day and proceeds to a bibliography.

His aim is to determine the pathological changes in the adrenals in infectious diseases. His material consisted chiefly of clinical histories and post mortem records of patients dying of acute infectious diseases 45 cases in all being studied: lobar pneumonia 6 bronchopneumonia 13 typhoid fever 9 cerebrospinal meningitis 8 general military tuberculosis 4 and yellow fever.

Only one adrenal in each case was sectioned and the stain was made by hematoxylin by the Van Gieson method.

The results of the study were recorded in a series of tables a summary of which follows:

The medullae of the adrenals showed the following conditions: Cellular atrophy 7 cases congestion 18 cases small hemorrhages 4 cases foci of infiltration of lymphocytes 8 cases fibrosis 2 cases cavitation 4 cases post mortem degeneration 3 cases and normal with chromaffin cells staining rather deeply 4 cases. While more than one change in a single case was frequently noted there were also gradations in the severity of each particular process. The most constant changes, and doubtless the most important, were seen to be cellular atrophy and congestion. These conditions were present either singly or together in 34 cases practically three fourths of the number studied. The first change—atrophy of the cells—predominated in bronchopneumonia and typhoid fever while congestion was more prominent in lobar pneumonia and epidemic cerebrospinal meningitis. In the 4 cases in which the adrenals were normal, the heart musculature was more or less degenerated. The 3 cases of post mortem degeneration were well marked but as to this the writer is inclined to agree with Gruner who says that post mortem changes in the adrenal medulla are not so frequent as is commonly supposed even if thirty hours lapse before the tissues are fixed. A. C. STOKES.

Brown P. The Roentgen Determination of Certain Renal and Ureteric Variations and Disorders. *Basis 11 & 3 J* 94 1 173.

By Surg. Gynec. & Obst.

The keynote of this article is cooperation and collaboration between a surgeon, cystoscopist and roentgen worker.

The element of sclerotic benedictism which the roentgen ray has produced is a diagnostic factor in this field may be divided into (1) the elements of the renal vasculature but secondary reference to its pelvis (2) dilatation of the renal pelvis with no especial reference to the renal tissue, and (3) a combination of renal dilatation and pelvic dilatation.

It is usually extremely hard without accessory or secondary knowledge to determine ontogenetically between a hypertrophy due to compensatory change and an enlargement due to hydrostatic pressure or to primary disease. From this viewpoint alone collaboration is decidedly advantageous. H. W. FLAGGMEYER.

Stanton L. M.: The Causes of Renal Pain. *A. J. S. J. Med.* 19 4 21 461.

By Surg. Gynec. & Obst.

In discussing the causes of renal pain which are produced by pathological conditions the author cites two very different varieties of pain associated with diseases of the upper urinary tract: (1) the typical renal colic with its excruciating violent and radiating pains and (2) the fixed pain which in its turn may be dull and vague or sharp and intense.

The type of pain typified by renal colic is due to excessive contraction of the smooth muscle in the pelvis and ureter. Any stimulus, whether mechanical or chemical which is capable of exciting excessive urethropelvic contractions seems capable of causing renal colic e.g. inflammatory processes in the pelvis of the ureter or pelvis may be the cause of painful spasmodic muscular contractions in these structures. Colic may also result from efforts to propel a foreign body along the ureter and the lumen may be obstructed by stricture by a kink or by pressure from without.

Fixed pains are mostly due to distention of the renal capsule as by acute congestion or parenchymatous swelling or traction on an inflamed capsule and in neuroathemic enteropositis the simple drag of the non-inflamed organ on its attachments seems capable of producing the pain.

Stanton groups the causes of renal pain under the following heads:

1. True kidney pain: infraction acute and chronic nephritis renal congestion pyelonephrosis, tumor growths, nephralgia and renal crises.

2. Pains caused by distention or muscle pain along the upper urinary tract: renal colic due to pelvic and ureteral irritability without demonstrable obstruction renal calculus ureteral obstruction—intermittent hydronephrosis infections and hemorrhage.

3. Misplications: Dietetic rises and dragging pains.

The most typical example of renal pain is seen in cases of renal infarcts of the kidney. Acute parasympathetic pain occasionally accompanies either acute chronic nephritis.

Renal congestion is well exemplified by the dilated pyelonephrosis is frequently the cause of the fixed type of renal pain and pyelonephritis and cystic infections of the upper urinary tract the absence of pain is often encountered.

Tumors of the kidney frequently produce a slight acupressure on the kidney. Nephralgia is used as a diagnosis only where no definite cause for the pain can be located.

Renal crises are very rare. In paroxysmal pains renal rigidity should look for tubercles or other lesion of the collecting system.

As regards calculus as cause of renal pain it is to be remembered that typical renal colic is not necessary for the diagnosis of calculus as they may be caused by widespread structural changes of the kidney with little or no pain.

Ureteral obstruction: a frequent cause of renal pain

Early renal tuberculosis is frequently accompanied by well marked pain

Colicky pains frequently accompany all of the purulent infections of the upper urinary tract and are probably the result of temporary complete obstruction

Renal hemorrhage accompanied by the formation of clots in the pelvis or ureter is usually accompanied by renal colic

Mispositions of the kidney result in kidney pain of a dragging character

Hydronephrosis in the presence of movable kidney is usually due to periodic kinking of the pelvis or ureter over aberrant blood vessels

True Dietl's crises have been very rare in the experience of the author

THO DROZOWITZ

Cabot H and Brown L T: Treatment of Movable Kidney With or Without Infection by Posture
Boston M & S J 19 4 clxxi 369

By Surg Gynec & Obst

The authors present an extremely interesting consideration of the relationships existing between the thoracic-abdominal shape and the functioning capacity of the subdiaphragmatic organs and considers the difference between the normal and the average body

In the normal body practically all the solid abdominal viscera lie in a plane above a cross section through the umbilicus the right kidney being protected especially by the right lobe of the liver and lying without undue pressure in its bed of retroperitoneal fat On the left side the small intestine and the sigmoid act as a balloon support in normally shaped body

In the average body or in the distinctly abnormal body with sunken chest narrow axillary angle and lax or protruberant abdomen all normal supports are relaxed with consequent derangement of blood supply and all the ills attendant upon ureteral dislocation and loss of integrity of the sympathetic nervous system

The paper as a whole is a plea for cooperation between the urologist and the orthopedist and urges a careful consideration of the external lines of the body in addition to the usual careful routine study of the viscera

H W FLAGG M D

Furniss H D: Colon Bacillus Infections of the Kidney
Pittsburgh 1914 4 x 12 64

By Surg Gynec & Obst

Colon bacillus infections of the kidney are discussed by the author under the following headings: (1) Why are the urinary organs so susceptible to the colon bacillus? (2) What are the factors predisposing to infection? (3) What are the exciting causes? (4) How does it gain entrance? (5) What is the natural course of the infection? (6) What method offers the best hope of eradicating the infection?

Each of these questions is answered very logically and clearly but the paper does not lend itself to abstraction

IRVING S KOLL

Chute A L: Some Observations on Pyogenic Infections of the Upper Urinary Tract
Boston M & S J 9 4 clxxi 368

By Surg Gynec & Obst

The author considers renal infection from the standpoint of the blood stream the ureters and the lymphatics and feels that the avenue of approach most threatening to the integrity of renal function is the ureteral one since this type of infection is so often associated with back pressure or obstruction

The relative frequency of the colon bacillus staphylococcus and pyocyanous is in the order named though there are few pyogenic organisms that may not serve as the medium of infection in the upper urinary tract

There is no constancy of the lesion brought about by the infection of a kidney with a given organism Neither does the route of infection necessarily produce a definite type of lesion

Special emphasis is laid upon the necessity of a tentative diagnosis of acute renal infection in children presenting an indefinite illness with temperature

Pure pyelitis is rare There is usually some involvement of the renal tissue so that strictly speaking the cases are pyelonephritis the extent of the nephritic element being roughly indicated by the amount of albumin present in the urine

The estimation of the amount of albumin is an easier and quicker way of distinguishing between an inflammatory invasion of the upper and lower tract than by depending upon the finding of casts and other distinctly renal elements With a considerable suppuration casts are only rarely found—therefore their absence is of no real value Bladder lesions excepting papillomata do not usually give more than one per mille of albumin by Labach while upper tract lesions may give considerably more

The underlying principle of treatment in chronic infection is the securing of adequate drainage in cases where conservative treatment is possible

While conservative treatment thus far has been anything but encouraging and while brilliant results have been secured from the removal of a suppurating kidney in the presence of a well kidney it is necessary to look for a conservative solution of the problem rather than to persist in the radical attitude at present held

H W FLAGG M D

Datner H: Renal Hematuria (111er re le
H m t nen) 1 k f M Ck 914 466

By Zentralbl f d ges. Chir Grenzgeb

The author reports three cases of renal hematuria In one case that of a 54 year-old man one kidney was removed on account of severe hemorrhage The bleeding was the only clinical symptom. On microscopic examination a parenchymatous nephritis was demonstrated In the other cases

His aim is to determine the pathological changes in the adrenal in infectious diseases. His material consisted chiefly of clinical histories and post mortem records of patients dying of acute infectious diseases: 13 cases in all being studied: lobular pneumonia, bronchopneumonia, 13 typhoid fever, cerebral spinal meningitis, 8 general miliary tuberculosis, 4 and yellow fever.

Only one adrenal in each case was sectioned and the stain was made by hematoxylin by the Van Gieson method.

The results of the study were recorded in a series of tables a summary of which follows.

The medulla of the adrenals showed the following conditions: cellular atrophy in 27 cases, congestion in 18 cases, small hemorrhage in 2 cases, foci of infiltration of lymphocytes in 8 cases, fibrosis in 5 cases, atrophy in 4 cases, post mortem degeneration in 3 cases, and normal with chromatin cell staining rather deeply in 4 cases. While more than one change in a single case was frequently noted, there were also gradualness in the activity of each particular process. The most constant changes and doubtless the most important was seen to be cellular atrophy and congestion. These conditions were present either singly or together in 14 cases practically three fourths of the number studied. The first change—atrophy of the cells—predominated in bronchopneumonia, diphtheria, while on gestation was most prominent in lobular pneumonia and epidemic cerebrospinal meningitis. In the 4 cases in which the adrenals were normal the heart musculature was more or less degenerated. The 3 cases of post mortem degeneration were all marked but as to this the writer is inclined to agree with Gruner who says that post mortem changes in the adrenal medulla are not as frequent as is commonly supposed even if thirty hours lapse before the tissues are fixed.

A. C. STOLZ.

Brown P: T. Röntgen Determination of Certain Renal and Ureteric Variations and Disorders. *Br J Urol* 5: 5 J 94 1 373.

By Surg. Gynec. & Obst.

The keynote of this article is cooperation and collaboration between surgeon, cystoscopist and roentgen worker.

The element of iscal abnormality which the roentgen ray has proved to be a diagnostic factor in this field may be divided into (1) enlargement of the renal pelvis with but secondary reference to its pelvis (2) dilatation of the renal pelvis with no especial reference to the intrarenal tissue (3) a combination of (1) enlargement and (2) pelvic dilatation.

It is usually extremely hard without accessory or secondary knowledge to determine roentgenologically between a hypertrophy due to compensatory change and an enlargement due to hydrostatic pressure or to primary disease. From this viewpoint alone collaboration is decidedly advantageous.

H. W. FLAGGMEYER.

Stanton J. M.: The Causes of Renal Pain. *Am J Urol* 1914 21 463.

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In discussing the causes of renal pain which are produced by pathological conditions the author cites two very different varieties of pain associated with diseases of the upper urinary tract: (1) the typical renal colic with its excruciating violent and radiating pain, and (2) the fixed pain which in its turn may be dull and vague or sharp and intense.

The type of pain typified by renal colic is due to excessive contraction of the smooth muscle in the pelvis of the ureter. Any stimulus whether mechanical or chemical which is capable of exciting spasm of the urethral pelvic contractions seems capable of causing renal colic. Inflammatory processes involving the ureter or pelvis may be the cause of painful spasmoid muscular contractions of these structures. Colic may also result from efforts to propel a foreign body along the ureter and the lumen may be obstructed by stricture by a kink or by pressure from without.

Fixed pains are mostly due to distention of the renal pelvis as by acute congestion or parenchymatous swelling, traction on an inflamed capsule, and in neuritis caused by enteroparalysis the simple drag of the noninflamed organ on its attachments seems capable of producing the pain.

Stanton groups the causes of renal pain under the following heads:

True kidney pain is infection, acute and chronic nephritis, renal congestion, pyelonephrosis, tumor growths, neoplasms and renal crises.

Pains caused by distention or muscle spasm along the upper urinary tract: renal colic due to pelvic and ureteral stricture, but without demonstrable obstruction, renal calculus, ureteral obstruction—intermittent hydronephrosis, infections and hemorrhage.

Malposition: Dietl's rises and dragging pains.

The most typical example of renal pain is seen in cases of unilateral neuritis of the kidney. Acute paroxysmal pain occasionally accompanies either cutaneous or chronic nephritis.

Renal congestion is well implied by the dull ache. Pyelonephrosis is frequently the cause of the fixed type of renal pain and pyelonephritis and cystic infection of the upper urinary tract are some of the causes of pain so often encountered.

Tumors of the kidney frequently produce early intercostal tenderness. Neuralgia is used as a diagnosis only when there is no definite use for the pain in the localities.

Renal crises are rare in paroxysmal pain of renal origin, but should look for crises or other lesions of the central nervous system.

As regards calculation a cause of renal pain it should be remembered that typical renal colic is not necessary to the diagnosis of calculus, as they may be causing a despondent distention of the kidney without little or no pain.

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TAKO DROZDOWITZ

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The authors present an extremely interesting consideration of the relationships existing between the thoracic-abdominal shape and the functioning capacity of the subdiaphragmatic organs and considers the difference between the normal and the average body

In the normal body practically all the solid abdominal viscera lie in a plane above a cross-section through the umbilicus the right kidney being protected especially by the right lobe of the liver and lying without undue pressure in its bed of retroperitoneal fat On the left side the small intestine and the sigmoid act as a balloon support in normally shaped bodies

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The paper as a whole is a plea for co-operation between the urologist and the orthopedist and urges a careful consideration of the external lines of the body in addition to the usual careful routine study of the viscera

H. W. FLAGGMEYER

Furness, H. D. Colon Bacillus Infection of the Kidney
Pittsburgh M & S J 1914 clxx 674

By Surg Gynec & Obst

Colon bacillus infections of the kidney are discussed by the author under the following headings (1) Why are the urinary organs so susceptible to the colon bacillus? (2) What are the factors predisposing to infections? (3) What are the exciting causes? (4) How does it gain entrance? (5) What is the natural course of the infection? (6) What method offers the best hope of eradicating the infection?

Each of these questions is answered very logically and clearly but the paper does not lend itself to abstraction

IRVING S. KOLL

Chute A. L. Some Observations on Pyogenic Infections of the Upper Urinary Tract
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The author considers renal infection from the standpoint of the blood stream the ureters and the lymphatics and feels that the avenue of approach most threatening to the integrity of renal function is the ureteral one since this type of infection is so often associated with back pressure or obstruction

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The estimation of the amount of albumin is an easier and quicker way of distinguishing between an inflammatory invasion of the upper and lower tract than by depending upon the finding of casts and other distinctly renal elements With a considerable suppuration casts are only rarely found—therefore their absence is of no real value Bladder lesions excepting papillomata do not usually give more than one per mille of albumin by Esbach while upper tract lesions may give considerably more

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H. W. FLAGGMEYER

Datner H. Renal Hematuria (Über renale Hämaturien)
Arch f kl Ch 1914 clxx 466

By Zeitschrift f d ges Chir G. Engele

The author reports three cases of renal hematuria In one case that of a 54 year-old man one kidney was removed on account of severe hemorrhage The bleeding was the only clinical symptom On microscopic examination a parenchymatous nephritis was demonstrated In the other cases

— men of 28 and 50 years — the diagnosis of renal hemorrhage as a result of nephritis could be made with certainty. The symptoms in one of the patients were more those of "kidney colic," in the other those of hæmaturic nephritis.

The author believes that in many of the cases of so-called idiopathic renal hemorrhage there is really a nephritis but that there are a few cases that must really be designated idiopathic. A so-called unilateral nephritis is always a bilateral disease but more marked on one side than the other. If conservative methods fail nephrotomy must be performed which moreover often has to be done in order to make a positive diagnosis. In other cases decapsulation or extirpation of the kidney is indicated. O. HIRSCH.

Bagger: Copious Hæmorrhage into the Bed of the Kidney (Zu Kenntnis der Mensesblutungen ins Nierengebiet). Beitr. z. N. Ch. 94, 1914, 454. By Zentralbl. f. d. ges. Ch. 1 Grenzgeb.

The case the author cites was a 44-year-old patient who had suffered for years from severe paroxysmal pains on the right side frequently appearing after taking alcohol. The pains were apparently due to hydronephrosis. Some days before admission to the hospital the patient had had an especially severe attack and there had been blood in the urine which had never occurred before. There was marked anemia, pain hæmaturia and a tumor suddenly appeared in the right kidney region. As hæmorrhage from any other source could be excluded and as the author had once before seen a similar case he made a diagnosis of copious hæmorrhage into the bed of the kidney. Immediate operation confirmed the diagnosis but rapid nephrectomy was successful and the patient died in a few hours.

The author discusses briefly the previous literature — 26 cases — especially with regard to the localization of the hæmorrhage whether intranterior or extracapsular, and describes the clinical picture in his own and the previously published cases. He believes that in his case there was a linking of the outlet of the kidney pelvis that caused hydronephrosis and that this in turn caused rise of blood pressure at the time of the attack in connection with the injury to the blood vessels from an extensive glomerulonephritis that could be demonstrated microscopically in the specimen led to considerable capillary hæmorrhage. The hæmorrhagic area was as large as a boy's head. Neither in this case nor in any of the earlier ones was a large vessel found to be the source of the hæmorrhage.

It is possible to diagnose the condition although it may be and has been confused with other intra-abdominal diseases for instance of the gall bladder and appendix or with other kidney diseases, a hydronephrosis and paranephritis. Important signs in the diagnosis are the rapidly developing tumor, severe localized pain and the symptoms of renal hæmorrhage. The prognosis with con-

servative treatment is bad in all the cases so treated have died.

With early operation the results are as a rule good. The treatment should be operative either simple incision cleaning out of blood clots and tamponing or nephrectomy depending on the individual case and the cause of the hæmorrhage. In suppurative processes hydronephrosis, tuberculosis and tumor of the kidney nephrectomy should be performed. ELLERMAN.

Schwarzwald R. T. Arteriosclerosis of the Kidney (Zu Frage der Nierenarteriosklerose). Ztschr. f. Urol. 1914, 39. By Zentralbl. f. d. ges. Ch. 1 Grenzgeb.

This is a short report of three cases from Zuckerkind clinic in which arteriosclerotic changes were found in the kidneys after kidney colic and hæmaturia. The arteriosclerosis was visible macroscopically in one case in the others it was recognizable in the histological picture. There were typical changes in the arteries and in the blood around them around the atrophic foci there were signs of reactive inflammation.

The author believes that many of the cases reported as circumscribed nephritis are really such demonstrating inflammatory processes and suggests for these cases the name of *dyspraxia renalis* (Nierenkrampf).

In the discussion LÖNNSTEDT of Berlin and HAYMAN of Düsseldorf reported cases of essential hæmaturia observed by them in which nephrotomy brought about complete recovery. In Heymann's second case there was also arteriosclerosis. MANKIEWICZ of Berlin reported two cases of renal hæmorrhage due to hæmophilia in which the bleeding was stopped by locally dry diet and gelatin. REACTING.

Lund F. B. Raising a Operation for Congenital Cystic Kidney (Zur Frage der congenitalen Nierencysten). By Surg. Gynec. & Obst.

After a very interesting discussion of the pathology of congenital cystic kidney the author divides the clinical history into three stages:

1. The stage of progressive enlargement in one or both kidneys without any subjective symptoms.

The stage of subjective symptoms and objective signs which may last from a few months to a year or eight years.

3. The stage of decreasement in function of urine in which appear the symptoms of uræmia or cerebral complications.

Males and females are equally affected and a fatal issue usually takes place in the fifth or sixth decade. The enlargement is rarely discovered before adolescence.

A detailed description is given of the operation according to Rovin's method each point of which is of such fundamental value to the success of the operation that it does not lend itself to abstraction. I. W. S. KOL.

MacNider W de B The Vascular Response of the Kidney in Acute Uranium Nephritis: the Influence of the Vascular Response on Diureals
J Pharmol & Exp Therap 1914, 1: 3
 By Surg Gynec & Obst

In this third and concluding article of a study of the vascular response of the kidney in acute uranium nephritis MacNider undertakes to determine which element of the kidney—vascular or epithelial—is most concerned in the establishment of anuria. Pearce Eisenbray and Hill in recent experiments on animals nephritic from potassium bichromate uranium nitrate or corrosive sublimate observed that following an anæsthetic these animals became anuric. Pearce *et al* also noted that in certain animals nephritic from uranium and anuric following an anæsthetic the renal vessels were still responsive to such stimuli as caffeine adrenalin etc and explained this absence of diuresis with vasodilatation as due to an impermeability of the glomerulus as a result of the anæsthetic.

In his earlier experiments MacNider found histological evidence of severe tubular injury in all kidneys which had shown anuria or a condition approaching anuria whereas in these kidneys there was never any constant or marked vascular change histologically. In order to determine the relative epithelial or vascular responsibility in the anuric state experiments were undertaken to compare the vascular response of animals nephritic from uranium which become anuric following an anæsthetic (Group II) with other animals the controls nephritic from the same quantity of uranium but which do not become anuric following Grehart's anæsthetic (Group I) or following morphine ether anæsthesia (Group III). It was possible to show by these experiments that the renal vessels remain responsive to stimuli which cause an increase in kidney volume (measured by the oncometer) associated with an increase in kidney volume vasoconstriction. The degree of this response was seen to vary in an animal of the same group as well as in those of the different groups so that it was not possible to determine in which group the animal were the most responsive. The experiments however demonstrated that following vasodilatation from Stein's the control animals (Groups I and III) which may be shown a plus 42 c plus 37 mm in nerve se in urine output occurs but that a much greater vasodilation in animals of Group II (plus 63 to plus 91 mm) does not cause a flow of urine. MacNider therefore concludes:

When Stein's anæsthetic is given to an animal nephritic from uranium with epithelial element intact following recovery of the animal from the anæsthetic the flow of urine increases.

When however the animal is given to an animal nephritic from uranium with epithelial element intact which is moribund and gives no output of urine the flow of urine does not increase though the vascular response from the stimulus may be great

as or greater than the vascular response in the animals in which the caffeine was of diuretic value.

From the investigation it would appear that the functional capacity of the kidney nephritic from uranium is more dependent upon an intact epithelial element than it is upon a responsive vascular mechanism.
 FRANK HENNA

Smith F H: Pyelitis in Children a Cause of Obscure Fever
Old Dominion J 1914, 1: 77
 By Surg Gynec & Obst

This author brings out a very important point in the introduction of his article viz that until the urine has been examined no case of febrile illness in children should be regarded as obscure. In some children the cause of the unexplained fever is revealed as pyelitis. In a predisposing etiology he mentions three points of importance: (1) The preponderance of pyelitis in female children. (2) It occurs most frequently under twelve months of age, which fits in with the theory suggested by the sex that the causation depends upon the soiling of the vulva with feces the feces passing thence into the bladder ureter and pelvis of the kidney. (3) The colon bacillus is in the largest majority of cases the exciting cause—a further substantiation of the belief that the infection comes from the bowel.

IRVIN S KOLL.

Hallenger F G and Elder O F The Diagnosis of Surgical Affections of the Kidney and Bladder
Ill to J Rec Med 9: 4, 1915
 By Surg Gynec & Obst

The authors have given a general summary of genito-urinary diagnosis illustrating the various steps by case reports. One of these cases is of especial interest. An abscess developed following an intermuscular injection of quinine in the right hip. Large quantities of pus appeared in the urine. An osteo-sarcoma of the hip was eliminated and cystoscopy was done. Pus was observed coming from a small opening in the right side of the bladder. Indigo carmin came through the urinary orifices but the drainage from the pus opening was uncolored. Drainage of the hip abscess demonstrated that it had pointed through the sacrospinous foramen along the sciatic nerve into the pelvis and then retroperitoneally below the brim of the pelvis and along the ureter into the bladder. C. D. Fricke.

Fitz R: The Value of Tests for Renal Function in Early and Advanced Bright Disease
Am J Med Sci 9: 4, 1915. By Surg Gynec & Obst

Fitz's compilation of the present status of the literature on the value of renal function tests in Bright's disease is certainly a contribution which bears up to a great many knotty points. The article is well worth reading not only for the case reports but for the individual theorizing of the author and the quotations from the literature.

After discussing the works of J. S. Schlayer, Voit, and discussing the procedures of

Folin Denis Marshall and others he concludes that on the whole the functional test is of great value. These observations merely emphasize that if the degree of renal insufficiency is to be judged with accuracy more than one test must be used.

It is believed that at the study of the nitrogen retention is of some value provided always that beginning uræmia can be excluded.

Obermeyer and Jepper showed that cases of uræmia have a high inconceivable nitrogen content in the blood than normal in individual cases and Vidal has gone so far as to say that it is possible to base an approximate prognosis as to length of life on the degree of urea retention. Strauss opposes the entire proposition on and says that the high percentage of urea content is always an indication of uræmia, and Foster's results bear out the statement.

Vidal has also emphasized the relation of fatty sodium chloride excretion to uræmia and its independence of nitrogen retention. Although Bickel was unable to corroborate this by means of electrical conductivity.

Hohne assumes that much of the retained sodium chloride in nephritis is stored up in the tissues rather than in the blood while Mann assumes that the chlorides are free and that they increase the concentration of the blood and tissues.

It is believed that whatever the relation of urea retention to uræmia may be there is no doubt that certain cases of advanced nephritis with normal function in other regards are unable to excrete sodium chloride and so develop uræmia. The cases reported by Austin and Pepper and by Baetjer demonstrate this strikingly. In Baetjer's cases which were of well marked nephritis, the phthalein and lactose outputs were normal or increased yet the patients were unable to excrete chloride and after its administration retained water. Apparently Austin and Jepper's case is of the same type. This shows from another point of view that more than one kind of test must be made to estimate the total renal function.

The author affirms that considerable evidence is at hand to show that certain manifestations of renal insufficiency are produced by retention of acid in the body with a consequent acidosis. He believes tests for renal function in Bright's disease are valuable aids in diagnosis, prognosis and treatment.

Stress is laid on the lactose and water potassium iodide and nitrogen tests in the diagnosis of nephritis in the advanced cases the phthalein test is most satisfactory. The nitrogen protein nitrogen of the blood serves additionally in confirmation regarding the faulty eliminative powers on the part of the kidney and yet cases occur in which both blood nitrogen and phthalein are normal. Chloride retention is an important factor in the disease.

The conclusions are that the study of renal function in advanced nephritis is a complex question and that no one test alone is conclusive but that dietetic measures may be more rationally prescribed if functional efficiency of the kidney is studied carefully.

A. C. STOKES

Jones W. C.: Experimental Ligation of One Ureter Application of Results to Clinical Gynecology *Am J Obst Gyn* 1914 15:39

By S. R. Cyre & Obit.

After an extensive discussion of the subject the author reaches the following conclusions:

1. During the first ten days after complete unilateral obstruction in dogs the gross changes are not marked, a slight hyaline nephrosis being practically the only lesion found.

2. From the tenth to about the sixtieth day constitute a period of hydronephrosis during which no general atrophies are found.

3. At the expiration of about two months the kidneys are divided into two groups: (1) those that continue to enlarge and (2) those which undergo general atrophy in size.

4. More or less gross evidence of intrarenal infection is almost constant after the tenth day. It seems that the less the infection the more marked is the general renal shrinkage.

5. Perirenal anastomoses do not seem to favor the development of hydronephrosis, for adhesions were much more marked in the atrophy series than in the large hydronephroses.

6. There is considerable evidence that low lesions are much more prone to be followed by atrophy than are those near the kidney.

7. As far as it has been possible to ascertain young dogs seem more liable to infection and consequently cystonephrosis at an older age.

8. In most instances the intra-ureteral pressure was not high in the cystonephroses.

9. If as much care is exercised in dog surgery as in human surgery, neither the morbidity nor the mortality of sudden complete reteral obstruction is high especially if severe infection can be avoided.

In the human the following points are worthy of particular mention from a clinical standpoint:

1. The ureter is injured probably from 1 to 3 per cent of all intra-peritoneal operations upon the female pelvis. This accident is more common by the signal than by the abdominal route.

2. These injuries are (1) displacement or laceration of the ureter by pathological structures in the pelvis, especially the endometrium and (2) congenital abnormality of the ureter.

3. The different kinds of ureteral injuries stated approximately in the order of their frequency: (1) laceration (2) clamping (3) kinking (these three usually produce complete occlusion).

(4) incision (5) resection and (6) destruction of blood supply. Complete obstruction may lead to the following results in the modicum of time in the dog: (a) infection (b) fistula (c) hydronephrosis—90 per cent (d) general renal atrophy—less than 10 per cent (e) myeloma series General—

(f) toxæmia—very rare (g) a uræmia—16 per cent, (h) no symptom—per cent. The mortality of unilateral ureteral ligation is 8 per cent.

4 In the diagnosis of ureteral obstruction the most important means is the ureteral catheter

5 The prevention of injury to the ureter usually may be accomplished by a careful unraveling of the pathological anatomy in each case beginning high up where the conditions are normal and where the ureter is easily found Too much reliance must not be placed on normal anatomy In ligating pelvic vessels each one should be isolated before tying Above all the surgeon must realize the imminence of the danger—that injury to this duct together with hemorrhage constitutes the chief danger of hysterectomy

6 Intentional ligation of the ureter may be indicated in irreparable injuries to this duct in order to get rid of the kidney functionally In these cases the procedure replaces immediate nephrectomy The kidney may be removed later If necessary but if no serious symptoms arise nothing further need be done Even though it is technically possible to repair the ureter the patient's condition may not allow prolongation of the operation In this instance the ligation is a strictly temporary measure to be followed by an early secondary operation for the restoration of the ureteral lumen before the function of the kidney becomes seriously impaired This procedure has been used by a goodly number of leading gynecologists and holds excellent promise of becoming an established procedure in selected cases

N S HANEY

BLADDER URETHRA AND PENIS

Hildebrand: Tumors of the Bladder (Blasentumoren) *Deutsche Gesellschaft für Chirurgie* 914
By Zentralbl f d ges Char u i Grenzgeb

Uniformity in treatment has not yet been attained and the operative mortality is still too high In carcinoma it is about 30 per cent In carcinoma there is still considerable difference of opinion as to what method of operation is best The methods in use are extirpation of the tumor through the bladder after high section resection of the tumor with a piece of the bladder and total extirpation of the bladder A series of cases given shows the severity of the operation and the high operative mortality No marked improvement in results can yet be reported permanent recovery practically never occurs This is explained by the fact that radical operation is only undertaken in the severest cases

The dangers of operation are peritonitis and phlegmon of the connective tissue both caused by the infiltration of urine Attempts have been made to overcome this danger by discharging the urine either through a temporary urinary fistula or by implantation of the ureters in the skin or the intestine The latter method should not be used The lymph glands are taken into consideration far too little It has been incorrectly asserted that these are practically never involved in carcinoma of the bladder

Hildebrand's experience as well as the autopsy

reports at the Chanté show that the lymph glands are involved in a high percentage of the cases To be sure lymph tracts have not been demonstrated with certainty in the mucous membrane of the bladder but the muscular coat shows numerous lymph vessels They conduct the lymph as Hildebrand shows in detail to certain lymph glands lying at great distances from one another Therefore if these were removed it would complicate the operation considerably and would demand the opening of the peritoneum in different places This would increase the operative mortality too much On the other hand improvement in the prognosis cannot be expected without removal of the lymph glands In papillomata the methods are intravesical removal and high section The intravesical method would be preferable if malignant cases could be distinguished from benign ones with certainty by macroscopic examination But as von Frisch has shown in a report of more than 200 cases 50 per cent of the papillomata have carcinomatous inclinations in the pedicle or in the lymph tracts Therefore a certain diagnosis cannot be made if intravesical methods are used All cases must be treated as if they were carcinoma not only must the tumor be removed but the base on which it rests Frisch himself has adopted high section a method of operation that gives 8 to 9 per cent mortality

KATZ STEL

Casper L.: Tumors of the Bladder (Üb Harnblasengeschwülste) *Med A1 Be1* 914 x
631 By Zentralbl f d ges Char Grenzgeb

The author discusses the pathology and symptomatology of tumors of the bladder and maintains that any hemorrhage from the urinary tract demands immediate cystoscopy Radium may be used therapeutically in malignant tumors Of three cases so treated 2 were unfavorably influenced because of quick absorption of the tumor tissue or rapid growth of the tumor one almost entirely disappeared

Definite judgment cannot yet be passed as to the value of radium and all operable malignant tumors should still be operated on In benign tumors the intravesical method should be used as it is without danger and there are few recurrences after it while after section of a benign papilloma is often changed into a malignant papillomatosis

Treatment with the high frequency current is most effective the part of the tumor touched with the head of the sound is coagulated without bleeding Large benign tumors should first be removed with the loop and the stump then treated with the high frequency current

(ZBL)

Uhl A.: The Treatment of Bladder Papilloma by High Frequency Destruction *A S S Phila* 941 39 By Dr. C. C. C. and J. O. J.

The paper embraces reports and histories of eight cases The author quotes Beer who was the first to employ this method successfully in the treatment

of bladder papilloma. Various terms have been applied to this form of treatment viz fulguration, desiccation, high frequency cauterization and thermocoagulation. The currents applied are either Oudin or d'Arsonval.

The first four cases were completely cured. The fifth was suggestive of malignancy and after treatment the patient disappeared from observation.

The sixth case received in all 21 applications made at intervals of a few days. Two weeks after the last treatment there was no evidence of the tumors. This case is still under observation.

The seventh case is still under treatment and the diagnosis is still in doubt.

The diagnosis of the eighth case was carcinoma of the bladder.

The author believes that high frequency destruction of benign growths of the bladder is a very effective method of treatment even when the bladder is extensively involved. In regard to the use of this form of treatment in malignant tumors, he believes that the immediate effects are apparently good as shown by the diminution of the growth and the cessation of the hemorrhage but that a cure should not be expected. **HERM J. KRETSCHMER**

Morton C. A. Excision of the Bladder for Malignant Disease. *B. M. J.* 1914, 24, 24.
By S. G. Gynce & Obst.

Morton believes that when a surgeon makes a suprapubic examination of the bladder in cases in which growth is seen with the cystoscope, he must be prepared to excise the portion of the bladder wall which is infiltrated by a malignant growth or if extensively involved to completely remove the bladder. He recorded four cases in one there was complete excision of the bladder for extensive epithelioma in three the bladder was partially resected for malignant disease.

In the first case the history pointed to an enlarged prostate with cystitis. On exploration by the suprapubic route almost the entire wall of the bladder was found to be infiltrated by a ulcerating growth. The bladder was drained for a fortnight when a ureterostomy was performed. A loin incision was made in each side the ureters divided low down, the distal ends tied and the proximal ends in which the catheters were tied were brought out and sutured to the angles of the wounds from which catheters the urine was drained by rubber tubes. Two weeks later the entire bladder was removed and the bladder cavity packed with iodoform gauze through the suprapubic drainage tube penis. The granulations round the opening and the abdominal skin were carefully prepared and through a perineal incision the prostate and rectum were separated. With the patient in the Trendelenburg position an incision was made around the drainage tube opening, and the skin edges sewed together over the opening. The abdomen was opened the intestines packed back the bladder

separated from the symphysis the peritoneum covering the posterior surface of the bladder was divided half an inch from its reflection on the bladder and left on its posterior surface. The bladder was then tied off 4 strands from the pelvic wall the ureters were dragged down the urethra divided and strands of tissue passing from the sides of the rectum to the lateral walls of the pelvis were clamped and divided. The area from which the vascus was removed was packed with gauze and the abdominal wound closed. A considerable gap still existed in the peritoneum through which the intestines came in contact with the packing. A drainage tube was placed in the perineal wound. No serious symptoms followed the operation. The packing was removed on the fifth day through the abdominal wound and a drainage tube put in. The patient was in bed for five weeks. Rubber receptacles were fitted to the loin to collect the urine and with a tube passing through the anus from symphysis to perineum the patient left the hospital eight weeks after the last operation. Six months later the patient died of melanoma. There had been no recurrence.

The second case was a man aged 50, with pain at the end of the penis with micturition and passage of spots of blood with the urine and frequency of micturition. Cystoscopic examination failed on account of blood in the bladder. The bladder was opened by suprapubic incision and a growth the size of a five-shilling piece was found attached to the junction of the posterior surface and the base just behind the trigone. The growth was not illous but firm with an ulcerated surface. By passing urethral catheters it was found that the portion of the bladder wall on which the tumor was growing could be removed without injuring the ureters. This was done taking with the growth about one inch of bladder wall all the way round except near the ureters where this was not possible. There was no difficulty in dealing with the hemorrhage. The gap in the bladder wall was closed by No. 1 sutured catgut. The urethral catheters were brought through the urethra and the bladder was packed with iodoform gauze. The peritoneum was brought together from the abdominal aspect the temporary abdominal packing was removed and after 48 hours gauze was packed against the abdominal a part of the bladder the abdominal incision was closed. The gauze was removed from the peritoneal cavity and the bladder on the following day a drainage tube passed posterior to the sutured bladder wall. The urethral catheters were removed in six days and then the urine drawn off by Catheter apparatus sixteen days after operation the tube was removed and the urine passed through the urethra. Seven weeks after the operation the wound was healed the patient could hold urine for one hour and half the urine was clear and he had no pain. If as well and a plug two years after the operation. The growth was an epithelioma and no metastases but not the peritoneum.

The third case a man aged 56 years passed a small clot of blood two months before admission and continued to pass clots until six days before admission when he began to pass blood stained urine. He had pain in the suprapubic region after micturition. Attempts to pass the cystoscope failed the prostate felt normal palpation over the pubes revealed a swelling.

The bladder was explored by suprapubic incision and a hard tumor the size of a small hen's egg was shown to be growing from the bladder just above the urethra on each side close to it was a firm nodule one eighth inch in diameter. There were also two papillomata on the bladder wall one on the left of the tumor and one at the base posterior to the trigone. The latter one inch by one and one half inches in size was dissected away. The other was removed with the growth which was excised together with the bladder wall one half inch beyond the growth—the excised portion contained the roof but not the floor of the prostatic urethra the space behind the pubes was packed with gauze and a large drainage tube put into the bladder.

The growth proved to be a glandular carcinoma. There were no serious symptoms and three months later the wound was healed and the patient could pass urine without pain or difficulty. He returned one year later with painful micturition and blood in the urine. It was impossible to pass the cystoscope and he declined further operation. He has not been heard of since.

The fourth case was a male aged 6 who for three months had had hæmaturia pain at the end of the penis with micturition pain later on being felt in the perineum. Cystoscopic examination was impossible owing to the presence of blood. A suprapubic incision was made and inside the bladder was found a growth the size of a small orange projecting from the posterior wall near the base. It was soft and friable and mixed with lot. The growth together with the portion of the bladder wall was removed without opening the peritoneal cavity. The gap in the bladder wall was closed with suture and the suprapubic opening was closed around a large tube. Six weeks later the patient left the hospital free of pain and hæmaturia but two months after there was return of hæmaturia and recurrence of the growth.

The author thinks that in cases of extensive malignant disease of the bladder a radical complete excision the only procedure which the risk is great and the tendency to recurrence considerable—that has been the case when extensive prostatic disease has first been undertaken for malignant disease elsewhere and after further experience the operation result has not improved. He thinks the mortality of complete cystectomy will be reduced if a preliminary operation is performed to establish bilateral urinary fistula. He thinks that where partial resection is possible it preferable to attempt excision but he feels that the growth is situated in the trigone region so

but close to the urethra complete cystectomy would be better. The question of how to deal with the ureters requires very careful consideration. In the female it is best to implant them in the vagina. In the male the method used in Case 1 is best.

In performing complete cystectomy Morton thinks it a great advantage to make a separation between the prostate and rectum before undertaking the abdominal part of the operation. He is careful to prevent the escape of any fluid from the cut urethra by clamping and from the bladder incision by packing and suturing the incision. Where the growth does not involve the posterior wall he advises an extraperitoneal operation by peeling off the peritoneum but if the posterior wall is involved wide removal of the peritoneum is advised.

The toilet of the peritoneum and the drainage of the wound and bladder in cases of partial resection are carefully considered. W. A. CLASWELL.

Keyes Jr. E. I. Carbolic Infiltration in the Treatment of Bladder Tuberculosis. J. U. S. Surg. Assoc. & Ob. 1904. 440.

While nephrectomy is the essential part of the treatment of tuberculosis of the bladder and many cases get well without any additional procedure there are a certain number of cases in which the bladder lesions persist until relieved by local applications.

Three principles must be recognized in the treatment of such cases: (1) An instrument must not enter the bladder—a relative prohibition. (2) The bladder must not be distended—an absolute prohibition. (3) The injection must give relief in proportion to the pain it inflicts—also absolute.

The best preparations for application to a tuberculous bladder are: (1) Sodium sulphate—3 per cent to 20 per cent—gomenol bichloride of mercury—20 ointment—used as an infiltration—and carbolic acid.

The last named drug may be used in solutions of from 200 to 2050 drops of it being instilled into the posterior urethra and allowed to flow back into the bladder. The author has found this treatment the most effective. In two obstinate cases he injected with benefit on two or three times of a 50 per cent emulsion of cod liver oil by drawing a few minims of phenol and then an equal quantity of water into the syringe. S. W. MOOREHEAD.

Randall A. Polyps of the Male Urethra. J. U. S. Surg. Assoc. & Ob. 1904. 441.

The author urges the use of the endoscope to cure polypoid urethritides in chronic urethritis and reports 4 cases of polyps of the male urethra which otherwise would not have been recognized.

It is probably plays an important rôle in the treatment although it is not necessarily due to gonorrhoea. The author's examination of 100 cases in which cases may be classified in 3 groups: benign fibrous polyps 7 cases benign villous polyps 1 case benign glandular polyps 5 cases.

The symptoms presented by these patients were (1) discharge, generally mucoid and only present when the polyp was in the anterior urethra (2) hæmorrhage in but one case (3) pain reflex and referred of varying types and (4) various disturbances in the sexual sphere in cases of polyps situated in the posterior urethra

The method of treatment consisted in the removal of the polyp through a plain air endoscope by means of a snare or rongeur followed by cauterization of its base

H L SAVROSE

Harpater C M Rupture of the Urethra Following Fracture of the Pelvis Ohio W U J 10 4 2 53 By S G Gynec & Obst

The author reports personal cases and concludes that in severe crushing injuries of the pelvis complicated by rupture of the bladder or urethra the urine should always be diverted either by supra pubic cystostomy or in cases of low rupture of the urethra by perineal urethrotomy. This relieves the urgent symptoms prevents urinary infiltration and puts the urethra at rest. In cases of shock or hæmorrhage repair of the ruptured urethra should be postponed

H L SAVROSE

GENITAL ORGANS

Butt A P and Arkin, A Malignant Disease of the Retained Testicle S G G Gynec & Obst 9 4 11 49 By S G Gynec & Obst

The authors report a case of double undescended testicle with tumor formation. The patient a farmer aged 48 had led a vigorous sexual life until recently. His health had been failing for a year. He was troubled with gastric disturbances his abdomen had enlarged noticeably for the past six months. Examination showed a man of slight build with scant moustache practically no beard voice of feminine type. His scrotum was small penis under sized and no testicles were found in the scrotum. A large, hard, smooth mass was palpable in the left lower abdomen. Upon operation a tumor weighing three and one half pounds was removed from the left side. The right testicle was removed from the lower part of the pelvis. Microscopic examination of the tumor showed it to be a sarcomatous carcinoma of double undescended testicles. The sarcomatous portion predominated and the connective tissue showed evidence of sarcomatous proliferation with large numbers of small round cells. In addition giant cells were scattered throughout the tumor making it an unusual one. Lymphoid follicles were present and the mixed tumor had involved both undescended testicles

Turner F The Treatment of the Imperfectly Descended Testicle Gynecology 9 4 359 By Surg Gynec & Obst

After a brief general review of the pathology of undescended testicle the writer sets forth a modification of the ordinary technique of orchidopexy which

he has used during the past year with good results. The final results of orchidopexy are uniformly unsatisfactory chiefly on account of the absence of any continuous natural force tending to hold the testicle in its new position of damage to the testicle caused by the passage of sutures of operative damage to the blood supply, and finally of the insufficient development of the scrotum on the affected side, which does not allow of preparing a satisfactory bed for the organ.

Turner proposes to transplant the testicle to the opposite side of the scrotum through a small opening in the septum. The technique needs no detailed description. No fixation sutures are required as the small hole in the septum quickly contracts after the testicle has been drawn through. Again, any attempts to resume its former position are counteracted by the resistance of the septum which supplies the necessary continuous gentle traction. When the condition is bilateral two operations are necessary at an interval of about two or three months.

FAYON L GUYOT

Jouet F Two Cases of Extirpation of the Vas and Vesicle for Genito-Urinary Tuberculosis Am J Urol 9 4 393 By Surg Gynec & Obst

Both of the cases cited were operated upon by the inguinal route. One had a residual sinus the other was discovered to have a tuberculous condition of the opposite vesicle and of the prostate three weeks after the operation.

The author does not advocate vasectomy as a routine procedure, but cites the following indications: (1) vesical disturbances and fistulae due to vesicular lesions (2) rectal obstruction from penicillitis (3) large vesicles on the point of suppuration, after conservative measures have been tried in vain (4) bad general health of the patient depending on the tuberculous lesions of the genital organs, (5) the presence of two diseased vesicles and one healthy testicle.

Contraindications are tuberculous lesions of the urinary tract distinct pulmonary lesions and a bad physical condition resulting from a cause other than the genital lesion. In the majority of cases vas epididymectomy alone is indicated.

S W MOOREHEAD

Thomas, B A. and Pancoat H K Seminal Vesiculitis Am J Surg 9 4 12, 375 By Surg Gynec & Obst.

An appeal is made to the profession to recognize that many symptoms which may arise from chronic inflammation of the seminal vesicles and which are too frequently overlooked especially in the hands of neurologists, rheumatologists and internists. Special reference is made to the vast array of conditions a symptom complex too little understood such as acute synovitis and arthritis of an infectious or toxic nature so called articular and even muscular rheumatism, rheumatic deformations, gout, hypertrophic arthritis, chronic bladder disturbances, recurrent

epididymitis impotency renal and cardiac complications digestive disturbances and a number of mental and nervous manifestations almost incredible of belief

The authors lay special stress upon the fact that most infections of the seminal vesicles if not all are of mixed variety. They confirm the suspicion by pathological examination of the inflammatory products obtained by massage of these organs. Among the bacteria harbored in chronic seminal vesiculitis that have been repeatedly demonstrated may be named the gonococcus various strains of the streptococcus pneumococci staphylococci colon bacilli corynebacteria and tubercle bacilli. Clinicians should readily appreciate the significance of such bacterial foci.

So far as systemic infections are concerned in comparison with the tonsil in the light of clinical experience and specific treatment it would seem that the greater evil rests with the seminal vesicles.

In summarizing the authors state that experienced massage will in the majority of cases effect a cure in due time. In many however massage often proves ineffectual. Convalescence may be accelerated by vasopuncture vasostomy and direct manipulation of the seminal vesicles. In certain cases—not so few as may be imagined—seminal vesiculectomy or vesiculectomy should and must be performed if the patients are to be cured or relieved of their annoying symptoms.

LEVIN S. KOLL

Hyman A. and Jachet L. The Röntgenographic Diagnosis of Prostatic Enlargement by Means of Air Inflation of the Bladder. *J. of Gynec. & Obst.* 1914, 21, 47. By Surg. Gyn. & Obst.

The authors call attention to a method which may at times be of considerable value in the differential diagnosis of prostatic enlargement when cystoscopy cannot be employed. While cystoscopy is the preferable procedure whenever feasible it is well known that in many cases it cannot be performed on account of a pronounced median lobe outgrowth or on account of a stricture of the urethra. It may be inadvisable in debilitated subjects with infected bladders owing to the danger of sepsis.

The method suggested by the authors is very simple. The bladder is first emptied then a small sized catheter is introduced to which is attached an ordinary rubber hand bulb. The bladder is gently inflated until the patient complains of a sense of fullness. The catheter is then withdrawn and the urethra clamped. The plate and X-ray tube should be adjusted before the inflation. The patient is placed in the ventrodorsal position and a compression diaphragm six and one half inches in diameter is lightly applied in such a direction that it brings the focus of the tube about three inches above the symphysis pubis at an angle of eighty degrees with the plate. The radiographs show the prostatic shadows within the bladder very distinctly. Operation in three of the cases confirmed the radiographic findings.

McGrath B. F. Cancer of the Prostate. *J. Am. M. Ass.* 1914, LXIII, 1012. By Surg. Gynec. & Obst.

McGrath begins with the hypothesis that the cells of cancer are the direct outgrowth of cells normally present in the acinus and that they are derived neither from the definite cells through metaplasia nor from prenatal or postnatal rests.

The author tries to establish the same proposition for cancer of the prostate that MacCarty did for cancer of the breast. MacCarty's conclusion was that the cancerous cells of the mammary glands are the direct immediate descendants of the undivided cells of the germative layer and that the hypothesis of embryonic rests is not essential for the explanation of cancer in this organ. In following out this hypothesis the following observations were made:

The normal acinus of the prostate is lined with a single or an imperfect double layer of columnar epithelial cells. These are the differentiated or specific functional cells of the gland. In the examination of the pathologic specimens these functional cells are frequently seen in a state of excessive proliferation forming projections in and bridges across the acini. There is also observed partial or complete exfoliation of the same cells with the formation of cysts which are empty or contain accumulations of the cells in varying degrees of degeneration. Some fields are noted where the acini present not only the proliferated functional cells but also outside these and immediately adjoining the stroma another row of cells which is morphologically dissimilar to the inner row of differentiated cells. Other fields contain acini with functional cells present exfoliated or absent and the lumina partially or completely filled with the hyperplastic undifferentiated cells of the outer row. Still other fields are seen in which these hyperplastic cells of the outer row are both intra-acinic and extra acinic consequently presenting epithelial invasion of tissue the accepted picture of cancer. Furthermore an impressive point is that the three conditions just described have been observed together in the same microscopic field. Metastasis occurs in bones lymphatics and in terminal organs. Internal metastases are usually larger than those from small prostatic cancers.

In one hundred collected cases Kaufmann found the pelvic gland involved 27 times the iliac 24 and the inguinal 16. Young thinks this demonstrates the fact that the diagnosis of enlarged glands should not be accepted before a diagnosis of carcinoma of the prostate is made. Blumer states that the prostate metastasizes into the bones most frequently.

The author's conclusions are as follows:

An analogy exists between the microscopic fields of epithelial changes observed in cancer of the prostate and those of the mammary glands as presented by MacCarty.

Cancer of the prostate is a comparatively frequent disease in men over 50 years of age. The process usually begins in the posterior lobe and presents itself more commonly as a small nodule of slow growth consequently careful investigation of the posterior

SURGERY OF THE EYE AND EAR

EYE

Krusus F I Transplantation of Living Hairs to Form Eyelashes (Über die I pflanzung leb nder Haare r W mpernb id g) *De t k m d II k*
ck 94 198
By Ze t l b l f d g Ch (C n r g e b

The hairs used for transplantation should preferably be taken from the patient himself. They must be strong not too old individual hairs from the head or the eyebrows or axillary or pubic hair may be used. The hairs are removed by Kromayer's method with a tube shaped trephine with a lumen of 3 mm. The transplant is washed in salt solution and then placed in a curved hollow needle. Under local anesthesia the needle is pushed 2 to 3 cm from the edge of the lid and brought out at the edge of the lid. While the hair is held firm the needle is drawn out. If the hairs are enough to replace a whole eyelash and many can be transplanted at one sitting. The result of this method are good from every point of view.

Vov 139 18

Holmes F M Intranasal Operation of the Relief of Nasoal Chrymal Stenosis (Otol Rh ol La gol 94 86)
By b r g G y n & Obst

Holmes reviews the anatomy of the lachrymal apparatus drawing attention to the important fact that the medial wall of the upper portion of the nasoal chrymal duct is the lateral wall of the anterior portion of the middle nasal sinus. In this wall is a cleft. If condensed the wall of making an artificial opening through this wall in cases of nasoal chrymal stenosis where obstruction is marked and symptoms distressing and are not relieved by blowing.

A series of 9 cases are reported. Of the first 3 only one was successful owing to cicatricial closure of the artificial opening. The latter to the use of mucous membrane shaped flap at the seat of operation which was turned up and it is not short to prevent subsequent closure. Of 5 cases thus operated upon 3 were successful. One modified by urethral anastomosis was failed.

W C R 12 8

Schweinitz G F de Psammomasarcoma of the Orbit in a Girl of Thirteen Successful Removal with Preservation of the Eyeball and Its Functions (J k Ophth 94 140)
By S g G y n & Obst

Examination showed tumorlike mass protruding from the upper and inner part of the left orbit. The trouble was of two and one half years

standing. There was no history of trauma or acute illness. As the tumor increased in size the eyeball was pushed down and outward. There was diplopia or loss of vision. The vision of each eye was 6/5.

X-ray examination showed frontal sinuses on the left side obliterated as far as the midline by pressure from the new growth. Frontal and ethmoidal sinuses themselves apparently were not involved.

Operation revealed a cystlike cavity its bony capsule being apparently complete and about 4 mm thick. The cavity contained a mass of tissue which in consistence and color suggested brain tissue. It also contained a small amount of clear fluid.

Microscopic examination of the tumor mass showed a very cellular tissue in which were embedded enormous numbers of refractile bodies. Treated with sulphuric acid these bodies dissolved and formed crystals of calcium sulphate. The tissue was well vascularized the vessel wall being surrounded by cells of the tumor in many instances. The cells were similar to those seen in sarcoma and owing to the presence of enormous numbers of these so called sand bodies a diagnosis of psammoma-sarcoma was made.

According to Adams psammomata are practically always of endothelial origin and are due to localized overgrowth of the capillary endothelium. This whole like arrangement of cells often degenerates and calcareous salts are deposited in these degenerated areas. To this sort of tumor the name psammoma is applied.

Lamb R S Eternel Canthotomy (Ophth R 94 437)
By Surg G y n & Obst

The vertical operation of Larnage on the palpebral aperture is adopted as a procedure by Lamb. He pleads for its frequent and more general use of this well known operation. The reason for this procedure is:

By the hooklike action of the margin of the lid ordinary foreign bodies are removed.

2 That desquamated epithelium for foreign bodies and are removed by the hooklike action. Canthotomy removes the drawback to the long nasal relief of ophthalmic gonorrheal or nasal disease is obtained by this operation. Numerous cases have been investigated.

Extremely canthotomy has proved in the author's experience a distinct advantage and advantage over any other procedure in connection with the treatment of corneal ulcers. The operation performed in the earlier stages and not as a last resort. In conclusion he states that since he has adopted this

procedure he has not found an ulcer that has not been benefited by it. He lays special emphasis upon the fact that external canthotomy should be used as a first and not a *à la* resort. T J Dismar

Weeks J E. A Case of Symmetrical Occlusion of the Pupils by the Development of Cyst and Small Solid Masses from the Uveal Layer of the Iris. *Am J Ophth* 9:4 Jan 43

By Surg Gynec & Obst

The case reported showed V R L 20/50 L E perception of light. Each pupil is occluded by small pigmented spherical masses varying in size. A small opening in the pupillary space of R L permits vision of 20/50. A diagnosis of cysts of the uveal layer of the iris was made. Operation which consisted of a detachment of small masses in the pupillary space plus a liberal iridectomy gave the following result with correcting glasses R L 20/20—L E 20/20.

Microscopic examination showed a development of cysts in the pigment layer of the iris. In addition there appeared to be an hypertrophy of the iris at its pupillary margin. There was also an increase in the size and number of the blood vessels.

Cysts of the pigment layer of the iris can be divided into (1) congenital (2) traumatic and (3) secondary to diseases of the eye.

The congenital cystic type presents some distinctive features viz (1) it is usually bilateral (2) development is slowly progressive (3) evidence of inflammation of the iris is usually wanting.

In certain diseased conditions of the eye as in glaucoma, or in systemic conditions as diabetes cysts of the pigmented layer of the iris are prone to develop.

Weidner W B. Intra Ocular Sarcoma. *N Y St J Med* 9:14 Nov 445. By Surg Gynec & Obst

At the annual meeting of the New York State Medical Society Weidner exhibited specimen of an intra-ocular sarcoma accompanied with brief remarks on its course which he divided into four stages: preglaucomatous, glaucomatous, intra-ocular tension and metastasis.

The preglaucomatous stage comprises the period of progressive visual defects and scotomata with growth exudes posterior to the media line of the globe.

The glaucomatous stage was the period of inflammation and increased tension and was not always present.

High tension he characterized as a valuable diagnosis in obscure cases with circumscribed retinal detachments the latter so being due to the pressure of tumor on the venous outflow.

Rupture of the globe is rare and is possibly due to an increased tension from intra-ocular hemorrhage—the case is often mistakenly attributed to hemorrhagic glaucoma.

The section is described as a rupture of the cornea showing the iris and lens extruded together with

parts of the ciliary body and the retina which are completely detached from the globe the choroid is partly detached with tremendously engorged vessels, and no change is apparent in the nerve. Microscopically it is a small round celled growth very vascular with evidence of free bleeding in small sized hemorrhages and pigmented in small part only which came from the ciliary body, giving the growth the type of purest leucosarcoma found.

WALTER W. WATSON

Biggs, M H and Norris, H. Enucleation of the Eyeball with Implantation of a Gold Ball. *So Jk W J* 19:4 11740.

By Surg Gynec & Obst

The authors refer to the necessity of the general surgeon occasionally removing the eyeball and therefore the need of his being perfected in the technique of at least one such operation. At first performing enucleation only the authors have recently adopted the Frost-Lang modification with gratifying results in two cases apparently unifiable with a gold ball implantation. One case a gun explosion injury with shrinkage of the globe following the extraction of steel with five months inflammatory disturbances and iridial adhesions before consent to removal was obtained and a 13 mm gold ball implanted with entire success though end results were adversely affected by partial infestation and shrinkage. In the second case a knife blade injury with enucleation in five days while the globe was much inflamed and ruptured during removal the patient now wears an artificial eye with fair motion.

Most a method is described with reference to the suturing with at first of the muscles and then the conjunctiva. The authors omit the suturing of muscles together in order that abnormal position of muscles relative to sphere by tension may be prevented.

WALTER W. WATSON

Chapman H W. Prompt Curettage of Keratitis Ulcers. *J Ophth Otol & Laryngol* 9:4 1947.

By Surg Gynec & Obst

The author prefers the curette first and next the red-hot cautery point but is opposed to the use of strong carbolic or formalin in these cases. Champion cures all old granulations and dead tissue and is rewarded by prompt healing. The after-treatment is bichloride of mercury 5000 atropin dilation and late yellow oxide and iodocyl.

C. W. I. HODGE

Guenther J H. Orbital Abscesses with Optic Neuritis Due to Acute Ethmoiditis in Child. *Laryngoscope* 9:4 221 803.

By Surg Gynec & Obst

Guenther reports the case of a child 7 years old whose first symptoms were those of orbital cellulitis with swelling of the eyelid exophthalmos displacement of the eyeball downward and outward with restricted rotation. Diplopia was present and the fundus findings were those of optic neuritis—

V 20/200 The orbital abscess was incised and a day later the ethmoid labyrinth was exenterated by external route Six weeks later the eye ground had entirely cleared up and vision had returned to normal W C REEDER

Nesfield V B The Clear Pupil after Cataract Extraction *I d n M Gaz* 914 xl 345
By Surg Gynec & Obst

Nesfield considers an intact mobile pupil following an extracted cataract of the greatest importance He bases his opinion on the fact that the natives of India refuse correcting lenses after the Smith extraction because he believes the focusing of the rays of light when the pupil is large causes painful dazzling

To secure a round active pupil he uses a sclero-corneal incision with the conjunctival flap then instead of depending on the corneal flap to aid in somersaulting the lens or breaking the ligament he uses a small blunt smooth hook which is pressed around the equator of the lens and the ligament is ruptured by pulling forward Delivery is said to be as easy as in the Smith operation

Peripheral iridectomy prevents prolapse without interfering with the pupil Bleeding is controlled by the use of adrenalin chloride 1:1000 followed by the use of sodium citrate 30 gr and 1 oz 1 per cent carbolic solution used during the operation to prevent clotting As a rule there is very much less astigmatism to correct after this procedure than after a Smith corneal incision C B FOWLER

Kimball A H Case of Voluntary Displacement of the Eye *Ill & W A* 914 l 99
By Surg Gynec & Obst

Kimball cites the case of an adult insane male who could at will dislodge his eye from the socket by manipulating his finger between the globe and orbit the eye assuming its normal position when released Frequent toying with the eye had produced blindness and slight proptosis from stretching and atrophy of the optic nerve but the ocular movements remained normal WALTER W WATSON

Parker W R Report of a Case of Detachment of the Retina Occurring in a Case of Neuroretinitis, Restored by Scleral Trephining Operation Associated with Incision of the Choroid and Retina *I & Ophth* 914 xl 489
By Surg Gynec & Obst

Parker reports a case of double neuroretinitis of unknown origin associated with a partial detachment of the retina down and out in the left eye of one year's duration The sclera was trephined over the site of detachment and an incision made in

the choroid and retina The operation was followed by a free discharge of a straw-colored fluid and a small amount of vitreous A marked reaction followed the whole bulbar conjunctiva becoming oedematous After a lapse of ten days the reaction had disappeared and the retina was reattached There was no recurrence after a period of eight months Vision before the operation was 4/60—the final record was 6/12 FRANCIS LANE

EAR

Dench F B Two Cases of Loss of Caloric Vestibular Reaction with Operative Findings *Is 111*
gosc 19 & 21 v 792 By Surg Gynec & Obst

The first case was a poorly nourished woman 24 years of age who had been troubled with deafness and a discharge from the left ear since childhood and for two weeks had been annoyed by dizziness vomiting and a tendency to fall backward and to the left side Upon admission the caloric test showed an active labyrinth on both sides but the following day there was no reaction to hot or cold upon the left side

A radical mastoid operation disclosed a fistula in the horizontal semicircular canal and the oval window was open consequently a complete labyrinthine extirpation was performed the labyrinth was drained posteriorly and the cochlea was drained by removing the bone separating the oval and round windows Recovery was uneventful

The second case, a boy fourteen years of age with a history of discharge from the right ear for six months was admitted complaining of severe pain in the right ear headache and dizziness The caloric test showed both labyrinths were active Some granulations were removed from the right tympanic cavity and eight hours later the temperature reached 104 the caloric test showed the right labyrinth was dead there was severe pain in the right side of the neck there was restlessness and meningeal cry though no other symptoms of meningitis the cerebrospinal fluid was clear a blood culture after eighteen hours showed two colonies of streptococci

A radical mastoid was performed and the lateral sinus found thrombosed evidently of long duration After operation the temperature fell but five days later it rose to 105.8° and lumbar puncture showed pus blood and streptococci present in the cerebrospinal fluid An exenteration of the labyrinth was performed the bulb exposed and curetted The condition improved but a few hours later the patient died suddenly of pulmonary embolus

ELLEN J PATTERSON

and a mirror. He thinks every laryngologist should own a working outfit for diagnostic work although from lack of experience all cannot become experts in bronchoscopy.

In the discussion the general consensus of opinion was that tube work was a peculiarity within a specialty and should be sent to the man equipped by experience for the work. **ELLEN J. PATTERSON**

MOUTH

Van Hook, W. The Use of the Tongue in Plastics

Ch. 8, 11, Rec. d. r. 94, 1478
By Surg. G. J. & Obst.

The tongue is susceptible of being used in a variety of ways to make good the defects and overcome the mechanical difficulties arising in the course of oral operation. Its mobility, its liberal covering with mucous membrane, the high vitality of its tissues, and the excess of its muscular mass above actual requirements are all of the greatest advantage for this work.

Within the dental arches plastic requirements pertain to the tongue itself to the tissue beneath the tongue and to the palatal and faucial tissues. The body of the tongue can be removed almost completely, leaving only the stump which will still be a useful structure and perform the lingual function sufficiently to meet the requirements of speech and deglutition.

When portions of the anterior extremity of the tongue are to be removed the best incisions are the V-shaped one if upon approximation of the cut surfaces it is found that the tongue buckles up at the point beyond the V it is best to excise a small cylindrical mass which will allow a smooth adjustment with catgut sutures.

The excision of a mass from the side of the tongue may be made to yield a long and narrow stump or a short thick one depending on the direction in which the incision are made and the line of suture.

In repairing a part of the oral floor the side of the tongue may be longitudinally split by the introduction of the knife through the defect in the oral mucous membrane and in this way the tongue may be made to protrude to cover the defect extending as far as necessary well over to the fixed gingival mucosa.

Defects of faucial and pharyngeal tissue may be repaired by lifting or displacing a part of the tongue until it spreads over the defect retaining it the flap by sutures.

The tongue is of great value with its wide mucous membrane, its broad attachments, its closeness

defects after the inferior maxilla or the superior dental arch has been partly excised together with a part of the lateral oral wall. In such cases the normal tongue is to be loosened on the affected side with the mucosa and submucous tissue of the oral floor. This loosening must be boldly done. The tongue may be lifted well to the side and its base may be rotated or drawn from the normal side of the mouth and spread out over the lateral oral defect.

Defects produced by removal of part or all of the body of the jaw may be repaired by loosening the mucosa in front of the tongue, freeing the anterior part of that organ and then carrying the flap and tongue forward for attachment to the lip leaving no pockets or angles in which food particles can gather.

The most important practical considerations in all this work lie (1) in the possession of exact knowledge of the distribution of blood vessels and (2) the use of large and loose flaps attached to their new site in such a way that the suture does not cause local death of tissue. **H. A. PORTS**

Royleston, H. D. Persistent Low Arterial Blood Pressure in Carcinoma of the Tongue with Amyloid Disease. La. J. Lon. 1941, 94, 169.
By Surg. G. J. & Obst.

A case of the above reported by Royleston showed a persistently low blood pressure of 90 and usually under 80 mm Hg. The patient, male, 62 years of age, an accountant in South Africa, was sent to London for radical treatment for noperable carcinoma of tongue. The specific history was negative. The growth had extended to the first anterior pillar of the floor. There was a slight enlargement of the cervical glands, albumin specific gravity 1002 to 1010, no casts, the liver and spleen were not enlarged. He had a great pain in the right leg became hunched and collapsed. The neurophysiologist showed growth of the tongue and palate but no secondary growth in any part of the body. The right leg showed commencing gangrene. The heart weighing 800 g was small and had brown atrophy. The kidneys, lungs, and adrenal glands were amyloid. The liver was negative to amyloid reaction. The persistent low pressure was a condition for by the general anemia in the amyloid disease. Five days before the final laparotomy blood pressure was 135 mm Hg with the normal difference of 30 mm between the systolic and diastolic pressure. **T. J. D. MITCHELL**

PROCEEDINGS OF SOCIETIES

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

MEETING HELD AT CINCINNATI OCTOBER 27-29 1914

Dowden, C. W. Gastric and Duodenal Ulcers: Etiology, Diagnosis, and Present Day Treatment
J. Miss. Val. M. A. Cincinnati, 1914
Oct. By Surg. Gynec. & Obst.

The author has strikingly reports a statistical study of 425 cases of gastro-intestinal disturbances in which a diagnosis of gastric or duodenal ulcer seems warranted from a thorough examination including the various laboratory methods with the employment of the Röntgen rays. One hundred and seventy cases or 40 per cent bore a fatal result to some infection and hemorrhages which is the chief etiological factor.

The anamnesis and the roentgenological findings are the most important diagnostic methods but the various laboratory procedures are valuable aids particularly for outlining appropriate treatment.

He believes that ulcers pass through a stage which is distinctly medical and if diagnosed at this time are amenable to treatment. Surgical ulcers are those that have in old medical treatment of the gastric mucosa and they can also be demonstrated on the radiogram. Medical treatment at this time is worse than useless because the patient mistakes temporary relief for cure and finally suffers one of the several sequelae: the most frequent and serious of which is carcinoma.

In proof of the theory that pain is not a result of irritation by hydrochloric acid Dowden cites several cases, and shows roentgenograms, in which all symptoms of ulcer were present but in which the gastric analysis showed a total absence of hydrochloric acid. That pain is a result of hyperperistalsis and tugging on the peritoneum he thinks is the more logical conclusion.

He believes a new era is dawning and that further study will show us that an active ulcer is its early stage is best treated by absolute rest for the stomach by keeping it empty thus avoiding the possibility of carrying infection per os controlling painful peristalsis by antispasmodics preferably atropine and by rest feeding until the acute stage has passed. All foci of infection should be removed.

Crisle, G. W. Anacol Association in Stomach and Gall Tract Surgery
J. Miss. Val. M. A. Cincinnati, 1914
Oct. By Surg. Gynec. & Obst.

The liver is a vital organ since after its removal animals progressively decline to death—the fatal termination arriving usually within twenty-four hours. Every liver impurment may therefore be

not only a serious handicap but even a menace to life. After apparently successful operations on the stomach and biliary passages the prognosis at first may seem promising but the patient soon begins to decline. The temperature and pulse may be normal but there is obviously a functional failure of normal metabolism. Transfusion of blood may carry a starved patient safely through the operation but the metabolic disturbances soon cause the favorable picture presented at the close of the operation to change. The fatal sequel in these cases is rare but many patients sail perilously near the rocks.

Cristin laboratory experiments gave the answer a clue to the explanation of these occasional sequelae of operations on the gall bladder and stomach in handicapped patients. These experiments showed that under normal conditions a definite amount of energy is stored in the brain, the adrenals, and the liver. The psychic and physical environment incident to an operation will of themselves, to some extent diminish these stores of energy and by so much reduce the patient's powers of resistance. In addition one of those vital organs has itself been attacked by the pathological condition for which relief is sought. The patient's welfare is still further endangered.

Observations of the H-ion concentration of the blood under various conditions have shown that the psychic and physical strain of the operation increases acidity. When acidosis is already present the increased acidity produced by the anesthetic may be sufficient to overcome the already narrow margin of safety. The ideal treatment of these cases comprises:

The pre-operative administration of sodium bicarbonate and glucose and of bromide per rectum. Morphine is contra-indicated if acidosis is present or threatens since by experiments it has been found that morphine inhibits or postpones the neutralization of the increased acidity produced by the trauma of the operation and by the anesthetic.

Neither twilight anesthesia or a light nitrous oxide oxygen anesthesia should be used since the increase in acidity is proportional to the depth of the anesthesia.

A technique so accurate and so completely associated by the use of local anesthetics and gentle manipulations, so that but a small amount of the anesthetic is needed.

A rapid technique as is consistent with good work that the period of anesthesia may be as short as possible.

The clinical record upon which these conclusions are based include the histories of 893 operations on the biliary tract and 331 on the stomach performed by the author's associates Bunts and Lower by the members of the surgical staff at the Lakeside Hospital and by the author

Eastman J: Colon Stasis *Tr Miss Valley Med Ass Cincinnati 1914 Oct*

By Surg Gynec & Obst

It seems fair to say that treatment directed toward the relief of chronic colitis will also affect the attendant ptosis and stasis and likewise the associated plastic peritonitis. Properly performed short circuiting operations by the improved drainage which they provide or should provide relieve chronic colitis and indirectly favorably affect the other factors of stasis, ptosis and peritonitis. It is well known that the faeces are to a considerable extent made up of epithelial debris of intestinal secretions and of dead and living bacteria and that these things mixed with food residue under the influence of contractions of the caecum rise in the ascending colon. But this contraction is not constant. The empty caecum is in repose; it does not contract. It is awakened only when the small intestine empties its liquid contents into it. It is this irritant which provokes the contractions. If contractions are not produced in this way, the faeces composed of epithelial debris, mucus and bacteria have no tendency to be evacuated. The colon becomes lazy and atonic and obstipation is increased by antiperistalsis. It is for this reason that ileosigmoidostomy may be said to be falsely conceived. By this operation the liquid contents of the small intestine are not permitted to enter the caecum to bring about contraction. It is for this reason that Lane, Leriche and others have been obliged to re-operate after ileosigmoidostomy and deal with an enormous faecal accumulation in the caecum and ascending colon. It is clear that typhlosigmoidostomy or typhloproctostomy cannot be open to the above criticisms for in these operations the fluid contents of the small intestine are permitted to enter the caecum.

In a case of imple constipation concerning the left colon only, ileosigmoidostomy may be of some benefit but it is debatable whether such a condition is not better treated by non-surgical means.

Hergmann first anastomosed the caecum to the sigmoid for volvulus of the ascending colon and the operation in cases of stasis is not indicated unless membranes or adhesions so fetter the colon as to make such an exclusion necessary because of incompetency or obstruction. If the colon is obstructed at the hepatic or splenic angles, or then colocolostomy as practiced by Lays which excludes these features alone is of obvious use. Sigmoid proctostomy for the exclusion of redundant sigmoid may often be employed with advantage to supplement the anastomosis of the caput coli to the rectum, or the redundant sigmoid may be treated

by the Trojanoff Winawer anastomosis between the loops of the sigmoid or eventually the redundant colon may be resected. At any rate after typhloproctostomy, coils of redundant sigmoid cannot with safety be left above the stoma.

Montprofit's operation of dividing the terminal ileum and anastomosing both ends end to side with the sigmoid represents no improvement over simple typhloproctostomy. Here an attempt is made to drain the excluded caecum in defiance of the ileo-caecal valve through the short stump of the ileum, whereas this can be accomplished more simply and more completely by a large stoma in the floor of the caecum.

Case J T: Rontgenoscopy of the Colon with Special Reference to Some Sources of Error in Diagnosis. *Tr Miss Valley Med Ass Cincinnati 1914 Oct*

By Surg Gynec & Obst

The colon is normally subject to certain variations in form and position and in the disposition of its content which are entirely physiological. The large pendulum movements first described by Rieder are especially active in changing the form and position of the transverse colon. The appearance of the bismuth filled bowel undergoes numerous changes within twenty-four hours and from hour to hour on account of the influence of the different kinds of peristaltic movements to which the colon is subject. With increasing experience morphological factors have shrunk in importance whereas functional problems relating to the colon have assumed greater significance. An increasingly large number of symptoms formerly attributed to ptosis are now found to be due to other more tangible lesions. It is especially important for the roentgenologist to familiarize himself with the mechanical factors concerned in the activities of the large bowel. A study of Cannon's work on the physiology of the gastro-intestinal tract is of the greatest importance.

It is necessary to recognize the various changes in the disposition of the colon content by antiperistalsis and the different kinds of onward peristalsis especially the large mass peristaltic movements which constitute the principal onward propulsive influence in the colon. The filling defect in the colon shadow due to carcinoma may be closely simulated by the irregular disposition of the colon content following one of these mass peristaltic movements.

Filling defects due to the pressure of extracolonic tumors are often definitely indicative of the identity of the organ or tumor which makes the pressure. Retroperitoneal sarcomata, uterine and ovarian tumors, splenic, hepatic and renal tumors are all likely to produce characteristic dislocations of the colon.

Exaggerated antiperistalsis may be associated with either functional or organic obstruction in the distal colon. This tends to keep the bowel content as near as possible to the caecum, hence it is not safe to judge as to the exact location of a colonic obstruction from the point reached by the head of the bis-

Albee F H The Inlay Bone Graft in the Treatment of Fractures Joint Tuberculosis and Certain Deformities T Misses pp 1 valley M Ass C ci nat 19 4 October By S rg Cyneec & Ol t

By S. rg C. nec & Ol t

This report presents the advances in bone and joint surgery which Albee with his motor saw outfit has been able to make by his ingenuity and originality in the use of the bone graft in its wide field of application.

His remarkable series of successes in over 253 human cases covering a period of three years include 178 cases of Pott's disease, 16 graftings in congenital club foot, 17 innervated grafts for ununited fractures of long bones and 14 cases of paralytic foot deformities.

A tual bone fixation correction of kyphosis and early arrest of Pott's disease has been made possible by the bone graft. I lach spinous process is split longitudinally in halves one half of each being secured on the same side to form a gutter for the implantation of the bone graft including periosteum, osteum and marrow substance which is later removed from the crest of the tibia. (graft with the periosteal surface posterior) is securely fastened in it held by kangaroo sutures drawing the split portion of the unipartite lamina together over the graft.

operative treatment consists of removal of the tumor bed for from six to eight weeks with or without spinal brace or plaster of Paris jacket cast in rare instances.

This technique is also applicable to paralytic scoliosis where the author has implanted the graft material over the process of the sixth rib. It has two useful modifications in fracture of the spine in strengthening and correcting deformity in parabulbar has applied two grafts in man similar to those used in Pott's disease.

In tuberculous fistulae a rothia joint with technique of implanting tibial graft so as to prevent disease by implanting neand into the wing of the ilium and the other to the posterior spine of the sacrum

A most important portion of this paper is that devoted to the treatment of fractures. The method of applying the plaster is first for fresh fractures, in brief as follows:

The fracture exposed by generous skin incision and with the two motor saws through to one half an inch apart cut are made from two and one half to three inches back from the fractured ends when held in proper alignment. These cut fragments are removed by a narrow osteotome from a tongue and groove joint with the aid of the graft. With the same adjustment of the two saws a graft is removed from the anterior internal surface of the patient's tibia sufficiently long to fill the groove. The fracture ends are made to fit over the tongue end of the graft. Holes are drilled in the ends of the gutter so that secure the graft in place by kangaroo root and the elasticity of the soft parts holding the end together.

In ununited fracture of the neck of the femur in

stead of using the metal spike the author has le-
vied the live bone spike taken from the patient
thigh and lashed in the lowering instrument to fit
drill hole through the great trochanter into the head
of the femur.

In fresh fractures where an open method is necessary the graft can be taken from the fractured end by making one groove twice as long as that in the other fractured bone end removing the short fragment and sliding the long fragment along so as to span the fracture.

His method of erosion applicable to acute adult tuberculosis of the knee consists of the removal with the bone saw of sufficient areas of the articulation. If the patella is healthy it is used for the grafts otherwise grafts are removed from the tibia. The grafts thus bridging the junction of the femur and tibia are held in place by bone pegs as in the case of fracture or by kangaroo tendon.

In case of paralysis or congenital mallocation of the hip-joint, the following method is recommended: The acetabulum is a broad bone incision about half an inch back of the superior border of the acetabulum and drawing this half of bone farther outward over the head of the femur to hold this segment from returning to its original position a wedge-shaped graft removed either from the tibia or the greater trochanter is inserted into the gap formed by the projection outward of the roof of the acetabulum taking care of the relation of the upper segment of the femur to the head of the femur in its new position.

To correct the deformity of collapsed and congenital club foot the author uses the large graft removed either from the tibia or the tibial bone of the deformed foot.

I paralytic club foot the art ul t g surfaces of the scaphoid and tragus are sliced off and the weight placed between these bones.

Albee's conclusions are that the best graft furnishes a most trustworthy surgical agent that the interosseous marrow substance and periosteum should be included in the graft to attain osteogenesis.

I a rapid establishment of blood supply that
apportioned to the cells by plasma small particles
of bone in contact with the true plant that I g
bon possess certain bacteria resisting properties
that the bone graft stimulates osteogenesis and the
graft immediately the ing by new formed tissue
should be the major of all internal medicine.

The description of technique, complete and with illustrations, drawings and case reports add much to the value of the article.

Bernheim	B M	Hemolysis	Following	Trans
fu	ion	of Blood	T M	pp U i
cl	1	9 4 Oct	By S	g C)
				& Olat

Having had one fatal case of hemolysis following an emergency transfusion of blood and one non fatal case following transfusion for the apertic purposes B Rnheim sent out a question form to various surgeons throughout the country with the view of as

certaining just how frequently hemolysis does occur following transfusion and what the consequences are. Briefly he found that in 800 reported transfusions there were 15 cases of macroscopic hemolysis, an average of about 2 per cent. In these 15 cases there were 11 recoveries and 4 deaths. No hemolytic tests were made in three of the instances where death occurred although there was plenty of time to have done so in two of the cases. The third was Bernheim's own case, which was a post operative emergency case in which there was no time for making tests. In the fourth death tests were made and it was known that the donor's cells were slightly agglutinated by the patient's serum but since agglutination is an entirely different process from hemolysis, and since no other donor was available it was considered fairly safe to use this donor—and the result was that a fatality occurred.

Tests were made in 11 of the 15 recoveries, and in 9 instances hemolysis was prognosticated. That there were no fatalities in this group is considered almost a miracle by Bernheim who feels that his study proves the value of the blood tests.

The author divides the dangers of transfusion into (1) immediate and (2) late or delayed danger. The first or immediate is acute dilatation of the heart consequent upon an inflow of blood of such force and rate that the recipient's heart is overwhelmed. A definite train of signs and symptoms indicates such a condition which is always recognized and avoided by the careful operator.

The late or delayed danger is that of hemolysis which can be prognosticated in practically every instance by careful tests prior to transfusion. Bernheim feels that in the emergencies no thought should be given to the danger of hemolysis. He thinks it far better to transfuse immediately and save a patient from imminent death running the light risk of a late hemolysis than to temporize with tests which require at least two hours even under the most propitious circumstances for their proper performance—during a high time the last flicker of life may disappear. Where however there is time—which is the case in the majority of instances—failure to have the tests made is an inexcusable blunder. The majority of bad results are not reported and Bernheim knows of numerous instances of hemolysis which for one reason or another he could not include in his study so that instead of an incidence of 2 per cent the true average occurrence of hemolysis would at present probably be nearer 4 per cent and practically all of it can be prevented.

Ransohoff J. L. Radium in the Treatment of Cancer of the Uterus. *T. Missouri M. J. May 1914*
M. A. Cincinnati 914 Oct
 By S. G. Gynec. & Obst.

Radium is of undoubted value in cancers of the uterus at any and every stage of the disease. The control of hemorrhage, discharge and pain is undoubted. In every instance the radium has a beneficial local action—the disease disappearing locally.

The question as to whether radium has a permanent curative effect on cancers of the uterus must be left to the future to decide as a large number of permanent cures is necessary before the claims of radium can be substantiated.

The same may be said of the use of radium in operable cases. At present, if possible cancer should be used in all cases of inoperable cancers of the uterus when the patient is not in the extreme stage of emaciation and cachexia.

If the promises of radium in the treatment of cancers of the uterus are substantiated by permanent cures radium may in the future entirely supplant operation unless improved technique decreases the large operative mortality and promises a higher percentage of radical cures.

Kell S. Renal Infections from a Bacteriologic Point of View. *Tr. M. St. Pp. V. May 1914*
Cincinnati, 1914 Oct. By S. G. Gynec. & Obst.

To properly consider the bacteriology of renal infection it is necessary to take into consideration the various factors that act as contributory to the passage of the pathogenic bacteria into the kidney. The relative importance of the three routes now accepted—lymphogenous, hematogenous and urogenous—is of considerable interest. The present definite knowledge of the lymph-channels draining from the intestinal tract into the kidney readily accounts for the frequency of infections of the kidney associated with acute and chronic gastrointestinal disturbances, a fact that even at present is not well recognized by the profession at large. Infections through the ureter from below cannot take place in the absence of an obstruction which may be either intra- or extra-renal.

A point of particular importance that demands a great deal of consideration is the pyleitis associated with pregnancy the frequency of which is estimated as high as 20 per cent by some obstetricians.

Of late the hematogenous route seems to have been neglected in the consideration of the carriage of bacteria to the kidney. Its importance however should not be undervalued as there can be no doubt but that the importance of the circulatory system as a carrier of bacteria is of as great if not greater importance than that of the lymph stream.

A careful perusal of the literature shows the order of frequency of the infecting organisms to be the colon bacillus—in 50 per cent of the cases staphylococcus pyogenes aureus streptococcus pyogenes typhoid bacillus gonococcus bacillus lactis alkali genes cases and the pneumococcus. Of parasites the echinococcus bilharzia hematobium, actinomyces in the order of their frequency are mentioned by various writers.

Three factors should be recognized in arriving at a diagnosis which will give basis for a rational treatment. (1) What is the contributing cause? (2) What is the invading organism? (3) What is the pathology—pyelitis, pyelonephritis, or pyonephrosis?

Geraghty J T Functional Renal Tests T
Miss Valley M Ass Cincinnati 1914 Oct
 By Surg Gynec & Obst

The necessity for functional renal tests arises from the fact that without them it is not always possible to recognize the presence of renal disease and above all it is difficult to recognize the extent to which the presence of renal injury interferes with the function of the organ.

In true nephritis it has been found that the phthalein test in combination with a blood urea estimation furnishes practically all of the information which can be derived from these functional studies except in rare instances. Chloride estimations are useful in a special group but for cases of urinary obstruction the phthalein test is incomparable and only when the phthalein excretion is very low is it necessary to have a blood urea estimation. The presence of a high blood urea and a very low phthalein should contra indicate operation and should call for more protracted preliminary treatment. For estimation of function in association with ureteral catheterization the phthalein test is the simplest and furnishes the most accurate information. A considerable increase in the blood urea occurs only in the presence of rather severe bilateral renal disease.

While functional tests are extremely valuable and supply data frequently unavailable from any other source it should be remembered that they reveal only the excretory capacity of the kidney. By themselves they do not make the diagnosis or supply the prognosis. They only indicate the functional value of the kidney at the time at which the test is performed but cannot by themselves indicate what the renal function will be to morrow or next week. This latter information must be derived from the knowledge of the underlying pathologic process which is producing the reduced function.

Braasch W F Factors which Determine the
Advisability of Prostatectomy T Miss Valley M A
Cincinnati 1914 Oct
 By Surg Gynec & Obst

The author takes up for brief consideration the following factors which may influence the advisability of prostatectomy viz renal insufficiency in infection lithiasis, atony of the bladder and carcinoma. The patient's subjective symptoms together with the objective data following drainage of the bladder usually offer a satisfactory index of the functional capacity of the kidney prior to operation and should be relied upon in deciding whether the patient is ready for operation or not. The practical value of the so-called renal functional tests is of limited value as an aid in the prognosis of cases with urinary obstruction. Renal infection is a very important factor in the prognosis of prostatectomy and it is often difficult to estimate its degree.

Stones in the bladder as a complication to urinary obstruction occurred in 120 or 14 per cent. of the 873

patients on whom prostatectomy was performed in the Mayo clinic up to October 1 1914. Stones were found in the kidney in but 3 of these patients. When stone was found in the bladder together with hypertrophied prostate it was usually advisable first to remove the stone and drain the bladder. Occasionally the stone is the indirect cause of residual urine and temporary prostatic engorgement which is reduced by the removal of the stone.

Not infrequently atony of the bladder is seen where no evident lesion in the nervous system can be discovered and when neither digital nor urethroscopic examination shows prostatic obstruction. This condition is frequently the result of an evident spastic condition of the internal sphincter which may frequently be relieved through endoscopic incision of the sphincter.

The cystoscope is of considerable value in the diagnosis of urinary obstruction in selected cases it is however frequently contra-indicated with marked hypertrophy of the prostate gland. In cases of urinary obstruction urethroscopic data may be of greater importance than cystoscopic data. This is particularly true of doubtful cases of carcinoma of the prostate and cases of intra-urethral enlargement of the prostate. The author described three cases in which urethroscopic examination showed enlargement of the prostate extending into the lumen of the urethra which could not be detected either by cystoscopic or rectal examination. With carcinoma of the prostate instead of the usual sulcus seen in the posterior of the urethra between the hypertrophied lobes an elevation of the floor of the urethra may be apparent between the lobes a condition which on digital examination may simulate an inoperable degree of malignancy is subacute prostatic infection.

Cabot H Anuria Its Etiologic and Surgical
Phases T Miss Valley M Ass Cincinnati 1914 Oct
 By Surg Gynec & Obst

Classified according to pathology there are two types of anuria the secretory and the excretory. Classified by clinical causes there are three types the neuropathic the destructive and the obstructive. Diagnosis of the presence of anuria is always simple. Diagnosis of its cause requires care the use of all the means at our disposal, and accurate deductions.

Operation must be considered in all cases not due to destruction of kidney tissue. In cases of acute nephritis operation may tide over an emergency but is rarely indicated. In cases due to obstruction of the ureter from without operation will relieve the obstruction and is indicated when the cause is wholly removable as in benign tumors.

Operation is always indicated in anuria due to obstruction within the ureter. If both sides are obstructed both should be operated upon at the same sitting. If one is obstructed and the other has stopped secreting from reflex or from other causes operation is indicated only on the obstructed side.

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In the specialty of obstetrics there is no subject which has received so little attention as that of the diseases and care of the newborn. The cause of this is apparent for in the majority of cases the obstetrician's interest in the child ends with its birth and his chief attention is directed toward the care of the mother.

In view of the fact that about 25 per cent of the deaths which occur in the first year of life occur in the first month it is very necessary that this period of life should be carefully studied and means taken to reduce this high mortality.

Consequently the collective review on the Newborn by DR CLIFFORD G GRULEE of Chicago which will appear in the March number of the INTERNATIONAL ABSTRACT OF SURGERY should be of great interest to the obstetrical world in general and especially to those who may not have immediate access to the aid of a pediatrician.

Other collective reviews to be published during the next few months are

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INTERNATIONAL ABSTRACT OF SURGERY

FEBRUARY 1915

COLLECTIVE REVIEW

PYELOGRAPHY

By W F BRAASCH M D AND F S WILDNER M D
The Mayo Clinic, Rochester, Minnesota

PROBABLY the first attempt to render the urinary tract opaque to the X ray was made by Tuffier (1) in 1897. He suggested the simultaneous combination of an opaque ureteral catheter and radiography. Schmidt and Holischer (2) in 1901 independently suggested the same method and published radiograms which showed the course of the ureter and the situation of the renal pelvis by means of a fused wire inserted into the ureteral catheter with simultaneous radiography. They developed the possibilities of this method and demonstrated its value in various conditions. In 1901 Löwenhardt (3) described somewhat similar methods as did also von Illyés (4) the following year. In 1905 Fenwick (5) suggested for the same purpose the use of a ureteral catheter with its walls impregnated with oxide of iron. These methods were the forerunners of the use of liquid solutions opaque to the X ray for the purpose of rendering the outline of the ureter and renal pelvis visible in the radiogram, a method which has been called pyelography or to be more exact pyelo-ureterography.

The development of the history of pyelography may be considered from the following standpoints: (1) technique (2) diagnostic data and (3) accidents arising from its use.

Technique. Probably inspired by his ability to outline the alimentary tract with bismuth, Klose (6) in 1904 suggested the injection of an emulsion of bismuth into the pelvis and the ureter with simultaneous radiography. This method failed however because the resulting

shadow was uncertain and it was found difficult to remove the particles of bismuth which adhered following the injection. It remained for Voelcker and von Lichtenberg (7) in 1906 to demonstrate successfully the complete outline of the ureter and renal pelvis in the radiogram. They were the first to suggest the use of colloidal silver (collargol) for this purpose. In attempting to outline the bladder in the radiogram it was discovered in one of their plates that the solution had entered the ureter and renal pelvis also causing them to be outlined in the radiogram. Encouraged by this discovery they injected a 2 per cent solution and later a 5 per cent solution through the ureteral catheter into the pelvis of the kidney and were able to report the results of a successful series of pyelograms. The value of this method was slow to be recognized and consequently received but little attention until three or four years later. Within the last three or four years, however, the method has received widespread recognition and is at present even *en vogue*.

Various other forms of colloidal silver have been suggested by some observers. Argyrol in solutions of 40 or 50 per cent was advanced by Keyes (8) in 1909, silver oxide or cargentos by Uhle and Pfahler (9) in 1910, nargol and electrargol by others. Various solutions other than colloidal silver have been advocated. In 1913 Doderlein and Krüger (10) suggested the use of xeroform (15 to 20 per cent in olive oil). Attempts were made to render the outline of the pelvis and ureter visible by injecting gas instead

of liquid solutions Burkhardt and Polano (11) in 1907 first suggested injecting oxygen into the pelvis for this purpose. In 1911 von Lichtenberg and Dietlen (12) reported a series of pyelograms made with the use of oxygen and recommended its substitution for colloidal silver. However the use of the gaseous medium did not receive widespread recognition since the resulting outline was frequently uncertain and hard to differentiate from that of gas in the bowel. The use of an emulsion of silver iodide was suggested first by Uhle and Pfahler (9). Recently Kelly and Lewis (13) in 1913 have also recommended it and demonstrated a series of pyelograms in which it was used to advantage. They claim that it cast as good a shadow as colloidal silver without causing any of the ill results which have been reported to follow the latter.

The various solutions had usually been injected into the renal pelvis by means of a hand syringe. Since the degree of pressure by this method was uncertain and since it was impossible always to determine when the capacity of the pelvis had been reached an effort was made to discover a safer method of injection. For the purpose of overdistending the renal pelvis, a gravity method apparatus was first suggested by Baker (14) in 1910. The same year this method was first applied to pyelography by Uhle (9) and his co-workers. They placed the solution in a tube which was held at a short distance above the level of the patient and allowed the fluid to distend the pelvis and ureter by gravity. Ochlecker (15) in 1911 also advised injecting the solution by the gravity method rather than by the syringe. In the same year a similar method was suggested by Stanton (16) and Bruce (17). In 1913 Thomas (18) described a simple apparatus for the bilateral injection by the gravity method. As recommended by experienced observers the gravity method is now almost universally employed.

The importance of a careful preparation of the injected solution was emphasized by the writer in 1913 (19). He recommended that the colloidal silver crystals be pulverized dissolved in lukewarm water and then carefully filtered otherwise in the 10 per cent solution large particles of silver might be deposited in the pelvis and possibly cause irritation. He further recommended that there be no delay in making the radiogram after the kidneys have been catheterized and that the injection and radiogram should be made simultaneously. Kidd (20) in 1914 also urged that the renal pelvis should be subjected to pressure by the solution injected but a short time — preferably less than a minute.

The position of the patient while the pyelogram is being made is usually dorsal. In 1912 Fowler (21) recommended that a subsequent pyelogram be made in the erect position in order to observe the degree of renal excursion. Schramm (22) in 1913 recommended the moderate Trendelenburg position in order to distend and outline the ureter more completely.

The size of the plate varies with the purpose for which it is made and with the size of the field required. In 1911 Ochlecker (15) recommended a 40 x 50 cm. plate so that the entire urinary tract might be outlined. He emphasized the value of comparing the outlines in both renal pelves and ureters. Objections to this method may be raised on the ground of possible injury to both kidneys because of incorrect technique.

The opinions of different authors vary as to the degree of pain that should be caused by injection of the solution. The majority of them say that mild pain should be the signal for stopping the injection. In 1913 Childs and Spitzer (23) claimed that severe pain should be the signal for ceasing injection. The writer however has stated in 1913 that pain is unnecessary and should be avoided.

The greater the concentration of the solution the clearer will be the outline following its injection but it is a common experience that the more concentrated solutions are irritating. A 10 per cent solution is now most commonly employed though it is maintained by some that a 5 per cent solution will usually suffice to outline with completeness and safety. In 1908-1909 Albarran and Ertzbischoff (24) recommended a 7 per cent solution as did also Nowler and Reynard (25) in 1911.

The possibility of outlining the dilated ureters after filling the bladder with colloidal silver was first suggested by von Lichtenberg (26) in 1909. In 1911 Clark (27) also described this method advising the Trendelenburg position so that the fluid would more readily enter the ureters. In 1913 the writer (19) recommended the method in selected cases, but called attention to the fact that its use was necessarily limited.

Diagnosis. Attention was first called to the value of pyelography as an aid to diagnosis by Voelcker and von Lichtenberg (7) in 1906. They emphasized its value in the diagnosis of hydronephrosis and also suggested that it might prove to be of use in the diagnosis of renal tumor and anomaly although they did not then refer to any actual demonstration of such data. Albarran and Ertzbischoff (24) were probably the first to follow the suggestions of Voelcker and von

Lichtenberg and in 1908 published a summary of their experiences. Although they suggested the various possibilities of the method their results were incomplete and unsatisfactory. It remained for other observers to note the full value of the method and to develop its possibilities in the diagnosis of numerous conditions in which its use has been demonstrated. Diagnostic data derived from pyelography may be found in articles by the writer from 1909 to the present time 1914 (28). In papers read in 1909 (29) and 1910 (30) he called attention to its value in the diagnosis of the following conditions: (1) normal pelvis (2) hydronephrosis (3) pyelitis (4) pyonephrosis (5) renal tuberculosis (6) renal tumor (7) renal and ureteral anomaly (8) mono- and polycystic kidney (9) identification of renal shadows (10) localization of renal shadows (11) identification of ureteral obstruction and (12) as an aid to ascertain renal function. This summary may be said to include practically all possible conditions in which the method has been found to be of value.

The early writings of Voelcker and von Lichtenberg demonstrate the possibility of diagnosing the existence of hydronephrosis when other methods fail. Von Lichtenberg again described several types of hydronephrotic dilatation and in 1909 (26) referred to the diagnosis of movable kidney and ureteral kinks. In 1909 Keyes (8) described in detail the changes which take place in the calyces as the result of mechanical obstruction. He coined the term *plug hat pelvis* to describe the appearance of the hydronephrotic pelvis. In a paper read in 1909 (29) the writer also described various types of hydronephrosis with illustrations and in 1911 (31) he called attention to the value of the method in the diagnosis of early hydronephrosis. In 1911 Key (32) reported several cases of hydronephrosis with excellent illustrations. In 1912 Fowler (21) emphasized its value in the diagnosis of small dilatation of the pelvis. In 1913 Cabot (33) further emphasized this point and stated that it is frequently the only method whereby early hydronephrosis can be diagnosed. He also claimed the relation of the ureter to the pelvis to be of diagnostic importance in early hydronephrosis. In 1911 Oehlecker (15) referred to the value of pyelography in the diagnosis of dilatation in hydronephrosis and pyonephrosis. He described several pyelograms showing the dilatation of the renal pelvis and ureter which frequently accompanies pregnancy. In 1911 and again in 1913 Walker (34) in a paper devoted to the diagnosis of hydronephrosis described further

details of the method. In 1913 Voelcker (35) gave a detailed description of the gradual process of pelvic dilatation and differentiated between the mechanical and inflammatory types of dilatation. Probably the most recent paper on the subject is one by the writer (36) in which the details and possible variations of the outlines in the different stages of hydronephrosis are described. The value of the method in the diagnosis of hydronephrosis has been recognized by numerous other observers among whom may be mentioned Nogier and Reynard (25), Bruce (17), Necker (37), Jachet and Furness (38), Keene (39) and Legueu, Papin and Maingot (40). In 1912 Fowler (21) called attention to the method of making a pyelogram with the patient first in the dorsal and then in the erect position. In this manner the full degree of excursion of both kidneys when movable as well as the consequent course of the ureters can be more accurately ascertained.

The writer was probably the first to describe the various changes in the outline of the pelvis and ureter as the result of inflammation (29, 30). In a recent article he further described details of the various changes found in the different stages of inflammatory destruction (41). In 1911 Key (32) published several excellent plates showing dilatation as the result of infection. In a paper written in 1912 dealing with the value of pyelography in the diagnosis of various conditions Paschalis and Necker (42) state that the dilatation seen with inflammation is due to ureteral obstruction. In 1913 Voelcker (35) described in detail the stages of inflammatory change in the pelvic outline. In 1913 Keene (39) also described the form of dilatation seen in both the renal pelvis and ureter as a result of inflammation. In 1911 Clark (27) described the method of outlining the ureter dilated as the result of inflammation by means of injecting colloidal silver solution into the bladder with the patient in the Trendelenburg position and by simultaneous radiography.

In 1910 the writer (30) called attention to the value of pyelography in the diagnosis of renal tuberculosis in certain doubtful cases. In 1911 Oehlecker (15) stated that the method was occasionally of value in the diagnosis of renal tuberculosis. Von Lichtenberg and Dietlen (12) substantiated these reports in 1911 and described the various possible deformities seen even in advanced tuberculosis. In the same year Nogier and Reynard (25) described a case of renal tuberculosis diagnosed by means of pyelography. In 1911 Key (32) also described the possible value of pyelography in certain cases of renal tuberculosis.

Although the diagnosis of renal tumor by means of the pyelogram was suggested by Voelcker and von Lichtenberg (7) as well as by Albarran and Litzelschoss (24) they neither illustrated nor described the many possible deformities. In 1909 (29) and again in 1912 (43) the writer detailed the various deformities which accompany tumor and illustrated their more important phases. In 1909 von Lichtenberg (26) also called attention to the possibility of pelvic deformity as the result of renal tumor. In 1911 Novier and Reynard (25) stated that occasionally renal tumor could be diagnosed in no other way. In 1911 Oehlecker (15) also called attention to the possibility of diagnosing renal tumor by means of the pyelogram. These findings were reiterated subsequently by Jachet and Furns (38) Keene (39) and others. The writer (9) has called attention to the value of the method in differentiating tumor in the ureteral region from renal neoplasm. In 1914 Hall (20) also referred to the and given in the differential diagnosis of abdominal tumor.

Although Voelcker and von Lichtenberg (7) were the first to suggest the use of pyelography in the diagnosis of congenital anomaly in the urinary tract the first detailed data of the possibilities of the method were furnished by the writer in 1910 (30) and again in 1912 (44). In 1909 von Lichtenberg (26) cited a case of dysplastic kidney diagnosed by means of pyelography. In 1911 Oehlecker (15) emphasized the value of the pyelogram in the diagnosis of congenital anomaly and cited a case with duplication of the ureter and pelvis. In the same year Nemenow (45) made a similar observation and cited a case of pelvic kidney which was diagnosed by means of pyelography. In 1911 Seelig (46) described a case with bilateral duplication of the pelvis diagnosed by means of pyelography. In 1914 Joseph (47) described the value of the method in the diagnosis of a series of congenital anomalies. In 1914 Kidd (30) asserted that congenital anomaly is frequently overlooked and that its existence can frequently be ascertained by means of pyelography or pyeloradiography as he terms the method.

That pyelography could be of considerable value in the diagnosis of polycystic kidney was suggested in 1910 by the writer (30) who demonstrated with illustrations some of the varieties of deformity accompanying this condition. His later publication suggested that it might also be of value in the diagnosis of solitary cysts.

The value of pyelography in the identification as well as the localization of renal shadows was

first noted by the writer in 1910 (30) and later fully described in 1913 (48). In 1911 Oehlecker (15) also described various changes in the pelvic outline as the result of stone and called attention to their value in the identification of stone. In the same year Dohlan (49) described the value of the method in the identification of renal and ureteral shadow, calling attention to its use in the differential diagnosis of gall stone shadow. In 1912 von Lichtenberg and Dietlen (12) wrote of the desirability of localizing stone shadows by means of pyelography and advised the use of roentgen instead of colloidal silver for this purpose. Nogler and Reynard (25) in 1912 and Keene (39) in 1911 recommended pyelography in the diagnosis of renal stone.

The value of the method in the identification of ureteral obstruction including that due to lithiasis, was described by the writer in 1909 (20) and in 1910 (30). He detailed minutely the changes in the outline of the ureter caused by a stone in the lower ureter and furthermore called attention to the value of the method in the diagnosis of certain forms of stricture of the ureter. In 1910 Hble (9) and his collaborators also described the value of pyelo ureterography in the diagnosis of ureteral obstruction and lithiasis. In 1911 Oehlecker (15) described the value of pyelography in the identification of certain shadows in the area of the lower ureter. In the same year Dohlan (50) referred to the same method. In 1913 Keene (39) stated that it had proved to be of greater value in the diagnosis of stone in the lower ureter than the shadowgraph catheter and then described the resulting ureteral dilatation. In 1912 Furns (51) described in detail the diagnosis of certain forms of stricture of the ureter which could be diagnosed in no other way.

Accidents. The most recent phase of the literature concerning the subject of pyelography deals with the dangers attending its employment. A number of reports were made of lesions found in the kidney after its removal showing destruction of the renal tissue evidently by the injected colloidal silver. Thus, in 1911 Zachrisson (52) reported considerable reaction in five days following the injection of colloidal silver and on removing the kidney found that considerable destruction was present and that it was universally studded with black silver deposit. In 1911 Oehlecker (15) on removing the affected kidney in a case of renal tumor found the presence of infarcts in the parenchyma stained with colloidal silver. In 1911 Jervell (53) observed a wedge-shaped area of gangrene in the kidney following pyelography. Llehorn (54) in 1911 found

renal oedema on operating five days after pyelography Buerger (55) in 1912 reported deposits of silver in surrounding foci of suppuration in the cortex of the kidney Blum (56) in 1912 reported a series of experiments on the kidney in cadavers and attacked pyelography on the ground that it was a highly dangerous and furthermore useless method in diagnosis In 1913 the writer (19) reported three cases operated on for hydronephrosis in which evidence of silver was found in numerous infarcts scattered in the renal parenchyma He stated that such necrosis of the tissue could follow retention of colloidal silver If the drainage from the pelvis is blocked peristalsis may force the retained silver solution into the straight tubules with resulting necrosis of the tissues Tennant (57) in 1913 reported a case in which the substance of the kidney was damaged by injected colloidal silver Voelcker (35) Kelly and Lewis (13) and later Vest (58) in 1914 reported several cases in which evidence of colloidal silver was found at operation in the perirenal tissue In 1914 Mason (59) reported two cases where a number of infarcts were found in the kidney following pyelography Troell (60) in 1913 reported a case in which infiltration of the tissue followed the injection of 6 or 7 ccm of a 7 per cent solution of colloidal silver in a kidney which was otherwise surgical Leguen and Papin (61) in 1913 described in detail the various types of lesions seen in the kidney following infiltration of the parenchyma with colloidal silver They ascribe such lesions to overdistention of the pelvis with the hand syringe and have not observed them since employing the gravity method In December 1913 Schwarzwald (62) reviewed to date the accidents reported in literature of which there were eight He found that they were all due to errors in technique He also reported a case of a kidney removed for pyelonephritis and multiple abscesses in which a pyelogram had been made a short time before On examination of the kidney silver was found deposited in the tissues of the diseased portion only He concludes that the silver particles do not enter via the blood stream but probably through the diseased or traumatized tissues He believes that if the technique is correct no accidents should follow pyelography Walker (63) in July 1914 gave a detailed résumé of the technique involved in pyelography He claimed that careful injection of the pelvis with hydrostatic pressure would usually obviate any injury to the kidney He stated that infiltration of the renal substance resulted either from excessive pressure pro-

longed pressure or previous trauma to the pelvis by the catheter He advised using a small catheter to insure return flow if the pelvis was overdistended

Fatalities following pyelography have been reported by various observers In 1911 Rossle (64) reported a fatality shortly after pyelography which he believed to be due to colloidal silver poisoning Evidence of hemorrhagic diathesis appeared following the injection At post mortem the kidney showed silver substance embedded throughout the tissues In 1914 Smith (65) reported a death following pyelography which he attributed directly to pyelography In 1913 Rosenblatt and Morgandies (66) reported a fatality some hours following pyelography The patient died in shock following an injection of 40 ccm of silver solution Vest (58) reported a death fourteen days after pyelography he believed the pyelography caused hemorrhagic diathesis and possibly death In 1914 Hofmann (67) reported a death occurring four days after pyelography the death was found to be due to rupture of a hydronephrotic sac Such an accident is only illustrative of technical error in having used pressure sufficient to cause rupture and is not an argument against pyelography Within the past few months other fatalities have been reported by various American observers It is of interest to note that in practically every case the solution was injected with the pressure of a hand syringe The amount injected in most instances was greater than the pelvic capacity It is of further interest to note that the fatalities were usually reported by comparatively inexperienced observers Those familiar with pyelographic technique have had the least reaction following its use

Within the past year a number of papers have been published dealing with experimental work on animals undertaken with a view of discovering under what circumstances injuries to the renal substance follow injection of colloidal silver

Tennant (57) in June 1913 reported a series of experiments in which he subjected the kidneys of pigs to varying degrees of pressure with colloidal silver solution and noted the results He found that by introducing the solution at a pressure of over 40 mm of mercury that infiltration of the kidney invariably resulted

Strassman (68) in January 1913 reported the effect of overdistention of the renal pelvis in rabbits with colloidal silver under moderate pressure He found that the silver particles were carried by the lymph-spaces as far as the renal capsule By the end of twenty four hours

the greater part of the silver had left the renal tissue. He concluded that with careful technique taking care not to distend the pelvis for any injury might be a pyelography.

Wohllo (69) in December 1914 concluded from a large series of experiments that it is not when the hydraulic capacity of the normal pelvis was exceeded by a large amount of colloidal silver solution injected under pressure that the colloidal silver entered the interstitial tissue but in the tubules. With hydraulic pressure, however, if the pelvis capacity is reached the silver solution entered the renal tissue via the dilated tubules. When hydraulic pressure existed no more solution could be injected than the quantity first drained away. He claimed, however, that no leakage would result if the capacity of the pelvis was not exceeded. He believes that if the pelvis is traumatized a renal pelvis hamaturia that colloidal silver should be injected with great precaution in order that it can then more easily enter the renal tissue.

Kilf (20) in January 1914 reported a series of experiments on dogs kidneys. He injected the pelvis with silver solution at various pressures and concluded that the element of time under which the pressure was made was of much importance as the degree of pressure. He claimed that the solution should be injected at a maximum pressure of 10 mm of mercury and that it should be exerted less than a minute when exerted higher and longer the silver solution penetrated the renal substance, varying the grade. He believes that the mode of entrance was via the straight tubules.

Rehn (70) in January 1914 reported similar results following even moderate overdistention of the renal pelvis in rabbits and believes that great care should be used when colloidal silver is injected into the human kidneys.

In May 1914 Jensen (71) reports several experiments on dogs with similar results. On injecting a dog's renal pelvis with 20 ccm of 10 per cent silver solution under pressure of 100 mm the animal died within five minutes. Necropsy showed quantities of silver deposited in the various organs as the result of widely distributed silver emboli. He believes that this experiment explains the sudden deaths reported in man. He finds, however, that as long as only moderate pressure is employed and the capacity is not exceeded no harmful results from injecting the pelvis with silver solution.

It is very evident therefore that unless a pyelogram is made with strict technical precautions it may cause considerable injury. How-

ever in the hands of those familiar with the necessary technique and the selection of cases it has proved to be a comparatively harmless procedure. Thus the writer (19) reported a series of over 1,000 pyelograms made without serious result in any patient. The method is too valuable in the diagnosis of many conditions of the urinary tract to be discarded. Effort should be made however to discuss a subject which will not injure the kidneys under any circumstances and which may be safely employed in the hands of those with limited experience.

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ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

ASEPTIC AND ANTISEPTIC SURGERY

Frank, R. Disinfection of the Skin with Sterolin or Iod Sterolin (D. Desinfektion der Haut mit Sterolin bzw. Jod Sterolin) Zentralbl. f. Ch. 94 xli 49 By Srg. Gynec. & Obst.

The author recommends the following solution (named sterolin) for rapid sterilization of the skin: balsam Peruvian, gm 40 olei ricini terebinthi venet. (communis) aa gm 20, glycerine gm 10 spiritus vini conc. gm 1000. After the field of operation is shaved the skin is rubbed 1 to 2 minutes with sterile gauze dipped in the sterolin solution. The arms and hands of the operator are also rubbed with the sterolin. A second washing of the operative field with sterolin finishes the disinfection. A second washing is also necessary for the operator's hands. A preliminary painting of the operative field with tincture of iodine (6.6 per cent) may also be used. This method was tested in 270 operations with aseptic wound healing in all cases except five. No irritation or staining of the skin was noted.

E. F. Ziemer

ANÆSTHETICS

Meyer A. W. So-Called Total Anesthesia after Intravenous Injection of Local Anesthetics (Über die sogenannte Totalanästhesie nach intravenöser Injektion von Lokalanästhetika) Arch. f. H. Ch. 94 cv 70

By Srg. Gynec. & Obst.

Some time ago the author undertook experiments in anesthetizing the peritoneum by depositing local anesthetics between the parietal peritoneum and the abdominal wall. The abdominal wall was opened under local anesthesia and the anesthetic was injected with a blunt curved needle between the transverse fascia and the peritoneum. The entire insertion of the mesentery to the pan-

creatic region can be thus infiltrated retroperitoneally. Appendectomies were performed on human beings by this method and in some cases without the slightest pain. In animals gall bladder extirpations and other operations were performed. Their noses, tongues etc. were cut and punched without any pain to the animals. From a study of the literature it was found that such a total anesthesia had been produced by subcutaneous and intramuscular injection of local anesthetics and another series of experiments was undertaken in which 1 or 2 per cent cocaine was injected intravenously. The sciatic or femoral nerve had previously been laid bare for experimental purposes. The animals became alogistic after a few moments and cutting, burning and other forms of irritation were felt but without pain. Corrosives could be applied to the intestine without pain but the nerve-trunk remained as sensitive to pain as before even with very large doses of cocaine. The anesthesia therefore seems to affect only the peripheral nerve terminals to which it is carried by the blood. To confirm this assumption one leg was ligated before the anesthesia so that the circulation was cut off and the cocaine injection then caused total peripheral anesthesia, except that the leg from which the circulation was cut off remained sensitive. The conclusion is that the intravenous injection of cocaine can be used only in operations that involve no large nerve-trunks. It is not a true total anesthesia but only an anesthesia of the nerve terminals and fine peripheral branches. Klapp attached a true total anesthesia by injecting cocaine and gelatin solution into the lumbar cord. To obtain a sufficiently lasting anesthesia in this way it is well to precede it by small doses of morphine. With scopolamine morphine followed by cocaine injection anesthesia can be maintained for hours.

A. Goss

SURGERY OF THE HEAD AND NECK

HEAD

Kanavel A. B. Osteoplastic Closure of the Trifacial Foramina J. Am. M. A. 94 lxx 45

By Surg. Gynec. & Obst.

Kanavel advocates this new operation as a substitute for certain palliative procedures now

employed in the treatment of trifacial neuralgia. His experiments were carried out on dogs the work falling into three groups: (1) vulsion of the nerve with curettage of the canal breaking down the foramen and covering the area by pedicle-flaps of adjacent perosteum; (2) avulsion of the nerve; curettage and implantation of perosteum from some

other part of the body (3) avulsion of the nerve curettage and transplant of bone to fill the canal

Of these three methods the last appeared to be the most satisfactory

This latter procedure was carried out in a patient 74 years old with perfect results The infra-orbital nerve was exposed and avulsed by twisting the canal was curetted and the cavity filled with a bone plug covered by perosteum To remove the infra-dental nerve and obliterate the canal an incision was made at the angle of the jaw the bone was trephined and the outer table removed The canal was next curetted after the nerve had been avulsed and the plug after having been rotated 90 degrees to obliterate the canal was put back and depressed firmly into place I LOENE CARV

Turck, R. C. Malignant Tumors of the Jaws
J Fl M 1 94 1 76

By Surg Cynec & Obst

The author believes with many others that cancer can be cured only by thorough operative removal in the early stages and that cure is never certain unless the cause is removed before cancer begins He believes that when cancer of the deep tissues has progressed to a point where a positive clinical diagnosis is possible cure by any means whatsoever is improbable if not impossible

In the vast majority of cases the small growths irritations or tiny changes about the jaws from which cancer develops may be removed without danger under local anesthesia with one hundred per cent of cures Cancer may be classed as a preventable disease it always gives some warning of its approach there is always first some small benign sore ulcer or growth cure is always possible if the disease is arrested in its incipency Precancerous inflammation has killed more patients than the surgeon's knife

Turck states that differential clinical diagnosis between early malignant epulis and benign fibromata of the gum is usually impossible the growth should be removed subjected to immediate microscopic examination and if found to be malignant radical resection should be done at once

Myach W A New Operation for Bilateral Bony Ankylosis of the Lower Jaw (La neues Verfahren Beschreibung einer beiderseitigen Unterkiefergelenkankylose) Zentrbl f Ch 94 1 108 By Surg Gynec & Obst

Myach describes his operation as follows (1) Horizontal incision along the arcus zygomaticus which is turned down after a double osteotomy (2) cutting through the insertion of the maxilla temporalis together with the tip of the process coronoides (osteotomy of the latter) (3) resection of the ankylosed joint head or subperosteal wedge shaped osteotomy of the neck with interposition of a flap of muscle or aponeurosis also free plastic with fascia lata as used in one case on one side If possible the operation is carried out on both sides

at one sitting This operation was successfully performed on a girl of 14 years with an ankylosis of 11 years duration I. P. ZEISLER

Barth Surgical Treatment of Suppurative Meningitis (Chirurgische Behandlung der eitrigen Meningitis) Dtsch Gesellsch f Chir 1914
By Zentralbl f d ges Chir u Grenzgeb

The author reports three cases of cerebrospinal meningitis which he cured by laminectomy of the lumbar vertebrae and drainage of the sac of the dura The meningitis had developed after injuries Staphylococci diplococci and streptococci were found in the fluid obtained on lumbar puncture Before the operation puncture had been performed several times without results

The prospects for operative cure in meningitis are not so bad as commonly assumed if operation is performed early enough for the disease begins as a diffuse process and encapsulation of the pus between the cerebral convolutions does not take place until later There are two reasons why there has been such great skepticism regarding the operation heretofore Recovery was thought impossible because only the terminal stages of the disease were being considered and because the course of such cases after operation was always thought of It should not be forgotten that with the gradual development of meningitis leucocytosis produces a stronger resistance to the infection The spinal fluid obtained by lumbar puncture in meningitis has a markedly bactericidal effect while this effect is completely lacking in normal cerebrospinal fluid

The diagnosis depends on the presence of poly-nuclear leucocytes in the fluid from lumbar puncture the infecting bacteria may have disappeared under the influence of the leucocytes Recovery has been brought about surgically thus far in 50 cases most of them in otology Curability does not depend to any great extent on the bacteriological findings cases showing pneumococci and streptococci have been cured

Lumbar puncture should be performed on the very first appearance of symptoms of meningitis There should be immediate elimination of primary foci of suppuration repeated lumbar puncture to relieve brain pressure and if this is not sufficient drainage of the cavity of the dura either through the lumbar cord or the skull Murphy drains in the posterior fossa above the foramen magnum through the cysterni cerebellaris There is no rational ground for not treating meningitis operatively KATZENSTEIN

Vischer A. L. Traumatic Subdural Hemorrhage with a Long Interval (Über traumatische subdurale Blutung mit langem Intervall) Arch f Chir 94 1 455
By Zentralbl f d ges Chir u Grenzgeb

The first patient fell from a height of 6 meters and on operation seven weeks later there was found a

large subdural hematoma which extended over the greater part of the left hemisphere. The hematoma was sharply circumscribed, covered with a fibrinous membrane and contained reddish black, partly coagulated and partly fluid blood. It was emptied out, irrigated and the dura sutured without drainage. Recovery followed in 15 days.

The second case was similar to the first. Operation two months after the accident showed a large fluid hematoma. The cavity between the dura and brain at its deepest point was 2.5 cm deep, 7.5 cm broad and 6 cm long. It was irrigated and the dura sutured without drainage. The patient recovered except for slight residual symptoms.

HAN B. C.

Trotter W. Chronic Subdural Hemorrhage of Traumatic Origin. Its Relation to Pachymeningitis. *Bull. Surg. Gynec. & Obst.* 94: 7.

The author believes that a relatively slight injury to the head may result in a slow accumulation of blood in the meninges. The blood is believed to come from small vessels which pass between the dura and cortex at right angles to each other and which are torn by the movement of the brain in the fixed dura as the result of the concussion.

The relatively slow accumulation of blood leads to symptoms which differ from those following the rapid development of focal intracranial pressure in that the irritative symptoms are very slight or are absent.

The initial symptoms resemble drowsiness. In a few weeks these may change to more severe symptoms, the most common of which is an intermittent coma. The author believes that the condition is often unrecognized and that the condition which has been described as *pachymeningitis interna hemorrhagica* probably more often of traumatic than of inflammatory origin.

BIRBY BROOKS

Korotneff N. I. and Mintz, W. M. Surgical Treatment of Epilepsy (Die chirurgische Behandlung der Epilepsie). *Arch. f. Chir.* 94: 47.

In genuine epilepsy the object of a surgical treatment is to decrease intracranial pressure or change the cerebral circulation. This is attained by making a valve or by operating on the sympathetic. Statistics show how both of these operations fall short of accomplishing their purpose.

The authors have collected 187 cases of valve operation with only 3 permanent recoveries and it is worthy of note that in some of these cases of recovery the valve had closed—thus was true in one of the authors' cases.

Among 224 operations on the sympathetic recovery persisted for a long period a two years in 8 cases. The author does not believe that there is any scientific justification for operation in genuine epilepsy.

In cortical epilepsy of non-traumatic origin the prognosis of operation is better. If the disease is caused by a local process in a brain that had hitherto been healthy (no spasmophilia) the operation gives excellent permanent results. But since the kind or extent of the process cannot be determined clinically there is no guarantee for the success of the operation. In spite of that, however, operation is indicated in all cases of true cortical epilepsy. The authors report 8 of their own cases of this kind, including 4 tumors, 1 abscess, 1 case of multiple cysticercus and 2 cases of cerebral infarction. There was recovery in 3 cases, one case of multiple cysticercus which was operated upon 4 years ago and 2 cases of cerebral infarction operated upon 9 years and three months ago. In 5 other cases in which no anatomical substratum was found recovery did not take place. In one case, however, there was improvement in the condition.

If cortical epilepsy is due to trauma, operation must always be performed, and if possible a prophylactic operation should be performed as soon as possible that is as soon as the slightest suspicious symptoms appear. There is no guarantee of success in these cases but the results attained thus far have been very encouraging. The authors report 7 of their own cases 2 of which have not been under observation long enough for judgment to be passed upon them. Three patients were cured—one three years and one on year ago.

Stiefel. Further Experiences with Puncture of the Corpus Callosum Especially in Epilepsy. Idiocy and Related Conditions (Weitere Erfahrungen mit dem Balkenstich, speziell bei Epilepsie, Idiotie und verwandten Zuständen). *Deutsche Gesellschaft f. Chir.* 94.

By Zentralblatt f. d. ges. Chir. Grenzgeb. The author discusses briefly the methods of operation thus far used, the treatment of genuine epilepsy and the results obtained at the Halle clinic by puncture of the corpus callosum by Aston's method in epilepsy and idiocy.

Puncture of the corpus callosum was performed 19 times on 7 patients. In one case of epilepsy of puberty in a male the attacks first began in character became milder, the stopped almost entirely for two years, returned milder form and when second puncture was performed 4 years after the first the attacks became still rarer.

In a case of Jacksonian epilepsy the choked disc attacks gradually stopped entirely and the choked disc disappeared and has not returned in four and one half years.

In a case of genuine epilepsy, umbilical hydrocephalus, the convulsions stopped for several weeks but returned later in a less intense form.

In one case of epilepsy in childhood with twilight attacks the attacks suddenly ceased for six months. The procedure seems to have been life

saving afterwards attacks came on again but more rarely and a second puncture ten months later improved them but only temporarily.

In two cases of daily epilepsy with idiocy puncture was performed the results being cessation of the attacks permanently in one case and for seven months in the other. Both patients were relieved of the epileptic restlessness and their psychic condition was markedly improved. In one of the cases rare attacks came on again after 7 months. In two cases of epilepsy at puberty in females the attacks became rarer after puncture for 10 and 13 months.

One case of epilepsy of puberty in a girl operated upon was not affected. In a case of imbecility since childhood operated upon 8 months ago the attacks which had been coming on twice or three times a day stopped for a month and then returned in a milder form. In this case there was hydrocephalus internus and externus and adhesions of the dura to the brain.

In one case of severe epilepsy since childhood the attacks stopped for a long time and are still very rare. A case of microcephalus with epilepsy showed no change. Another case showed slight improvement. The child who had before been completely idiotic became much quieter and more normal according to the father's report. Two cases have been operated upon within the past six weeks and thus far are free from attacks. Two cases were improved for a considerable time after the operation but recently no reports have been received from them. There were no deaths from the procedure and no injurious effects.

The results are not brilliant but the cases were mostly desperate ones. An earlier operation would doubtless have given better results for puncture of the corpus callosum is without danger and it is an operation that can be performed quickly and easily. There is neither brain lesion nor shock and it can be performed under local anesthesia. Generally on opening the dura there is only slight brain pulsation or none at all after puncture and discharge of a few cubic centimeters of fluid brain movements reappear—a sign that the circulation and therefore the nutrition of the brain have been benefited. Headache and dizziness which are frequently unpleasant symptoms of epilepsy disappear. Puncture of the corpus callosum not only compares favorably with other operations recommended for genuine epilepsy but it is even to be preferred to them because it is so easy to perform and can be repeated when necessary.

HILDEBRAND of Berlin is not very well pleased with the results of puncture of the corpus callosum. He has performed 1132 cases. One drawback is that there is no means of keeping the puncture open. He had one death from injury of a sinus.

KOCHER of Berlin for this reason recommends that a small trephine opening be made to overcome the difficulty mentioned above.

TILLMANN of Cologne thinks the effect of puncture of the corpus callosum can only be to equalize

pressure differences he therefore uses it only where pressure differences can be demonstrated. He has often seen signs of inflammation in epilepsy the fluid obtained by lumbar puncture was rich in albumin in 50 per cent of the cases. The arachnoid often shows small cell infiltration. Jacksonian epilepsy is distinguished from genuine only by its location. He points out the importance of the subarachnoid space which is continued in the peripheral nerves hence the quick effect of strychnine. Epilepsy is often due to inflammation of the peripheral nerves.

LOSSEN of Cologne has seen recurrence in three cases of hydrocephalus after puncture of the corpus callosum therefore in three further cases of hydrocephalus he performed puncture of the cistern combined with puncture of the corpus callosum and drainage of the lateral ventricle with a sphenoid vein. In two cases there was marked improvement in the other death resulted from infection.

SCHLOFFER of Prague performed puncture of the corpus callosum 20 times in the method described by Kocher which demands a large opening. In one case there was unilateral paralysis from hemorrhage.

KATZ STEIN

HICKSON W J Organic Brain Lesions and Mental Defectives. III. nos. 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. By Surg. Gynec. & Obst.

The author's report is based on 100 consecutive admissions to an institution for the feeble minded and 25 cases of a high grade borderland type of defective delinquent selected at random and examined in the psychopathic laboratory of the Municipal Court of Chicago.

This group of 125 cases was examined specifically for organic brain lesion to further substantiate or refute if possible the correlation of these conditions with feeble mindedness and delinquency, and to further substantiate or refute if possible the theory that there are no psychoses without neuroses and no pathopsychoses without pathoneuroses.

It was further observed that there were relatively few negroes coming into the court and those the author tested were rated quite high mentally. It would appear that feeble mindedness is rather rare with full blooded negroes and in spite of the prevalence of syphilis in this race few metasymphilitic affections are found.

The mental tests used were the Binet Simon, Rossolimo graduated association and standard psychiatric tests. The accuracy for the standardization of the tests as well as the grouping of the tests was very apparent. The first 5 weeks of work in the laboratory in addition to all the other cases tested showed results on 245 boys. Of these 207 or 84.9 per cent were morons their average chronological age was 8.71 years their basal age 8.69 years and total mental age 10.95 years. Of these 245 cases 20 or 8.16 per cent were borderland cases with an average chronological age of 20.10 years a basal age of 10.4 years and a total age of

12 27 years Eighteen or 73.4 per cent gave a normal mental development with a chronological age of 20.94 years a basal age of 10.83 years, and a total mental age of 12.70 years. Some of the latter showed mental defect in contrast to mental defectiveness.

It was found that the lower the boys rated in the test the earlier and oftener they got into the toils of the law. It was found also that there was another test which was the most practical and reliable of them all—the world test the economic test. The segregation of these cases in the specialized courts brought out the fact that in addition to a physiological and psychological critical period there was also an economic or sociological critical period, highly correlated with the other two which latter falls between the ages of 7 and 15 years when the boy begins to be put on his own responsibility when he is expected to become independent and be self-sustaining. This is the period in which most of our boys fail as then there are brought into play certain psychological faculties that heretofore have been very little called upon and since the majority of these boys are of the higher type of feeble-minded they are not discovered so readily by the casual observer in the earlier years and the defect first becomes evident at this time. In order to classify the higher grade of these boys, a new term had to be coined namely sociopath the sociologic economic unfit testing over but yet mentally defective. This fits in very well with the common terms of psychopath and neuropath.

The neurological condition found in these cases is what is generally known as infantile cerebral paralysis. This includes diplegia or Little's disease the paraplegia pseudobulbar palsy etc. It was found that most of these cases showed the infantile type of hemiplegia and that as a rule it did not follow the Wernicke and Munnich type of involving certain muscle synergisms. The most frequent symptoms noted were underdevelopment of one half the body or limb the prevalence of Babinski sign either of the extensor or reaction type very often the Oppenheim and occasionally the Rossolimo and the Gordon signs. There was usually ankle and patellar clonus and exaggerated knee-jerks. The other superficial and deep reflexes were usually found altered. It was possible sometimes to elicit a difficult Babinski sign by the reinforcement method of Jendrassik.

It was interesting to note that these same symptoms were found in 8 cases of the Mongolian type of feeble-mindedness and also in one cretinoid who failed to improve on thyroid treatment. As a further means of bringing out the symptoms the blood-pressure apparatus was used which shows on the affected side a diminution of from five to ten millimeters of mercury over the sound side. The ergograph and dynamometer also helped to secure a diagnosis. These findings if further substantiated will be of great importance to psychologists and neurologists, the courts and economists.

The only treatment thus far suggested for the defect a delinquent has been segregation and sterilization.

Kuttner H. Th. Results in 1011 Radical Operations Performed on the Diagnosis of Brain Tumor. *J Am U As* 9 4 Jan 330
By Surg Gynec & Obst.

Kuttner emphasizes the importance of early diagnosis of brain tumor and advises that suspects be placed under the observation of a neurologist. He regards the diagnostic brain puncture of Vassor and Pollak as a step forward and minimizes the danger from hemorrhage in its use but as he has seen a direct rise of brain pressure following the puncture this should be done only when conditions permit immediate trepanation. This method aids diagnosis both as to the presence as well as the extent of tumors as they may become very large if deeply treated with relatively slight symptoms.

Annoying contralateral paresis or paralysis follows in some cases of palliative trepanation in which the pressure is sufficient to force the brain into the gap; this condition is transitory in some cases, but in others the symptoms persist.

Kuttner suggests that in cases of doubtful localization trepanation be done both above and below the tentorium simultaneously especially in those cases where the posterior cranial fossa is believed to be the site of the tumor.

Puncture of the corpus callosum and ventricular drainage has not yielded gratifying results.

A two stage operation is advised for brain tumors and also for palliative decompression except in those cases that demand immediate opening of the dura. Local anesthesia has been a welcome advance and full ether anesthesia has only rarely been employed.

Out of 100 patients operated upon a tumor was removed in 30 cases. In addition the presence of a tumor was late demonstrated in 34 cases. Forty five patients died as the result of the operation or its complications.

D L Despard

Long T L. Th. Relation of the Cerebellum to the Labyrinth. *Ill us U J* 9 4 Jan 326
By Surg Gynec & Obst.

The close connection of the cerebellum to the labyrinth is sometimes not fully appreciated. Sufficient emphasis is not always given to the interrelations of cerebellar and cerebral functions, the substitution of the one for the other being frequently overlooked. The automatic acts were once willed movement on the part of the higher mechanisms at the expense of consciousness. In the event of embarrassment to the cerebellum substitution may be effected by the labyrinth and the cerebellum. The intimate relation of the vestibular apparatus to the cerebellar mechanism facilitates attempts at restitution of cerebellar functions.

There are constant excitations coming from the labyrinth for muscle tonus and these are controlled and inhibited by the cerebellum. The intimate

associations of the centers of the vestibular and cerebellar mechanisms and the similarity of their phenomena are to be considered in interpreting certain anomalies in station and motility. Phenomena arising from a vestibular lesion usually disappear in a short time if the cerebellum is intact but in the event of a lesion of the vestibular apparatus in a cerebellar case there is not likely to be any restitution. This suggests an interrelation of the labyrinth and the cerebellum.

These two systems the labyrinthine and the cerebellar have interesting anatomical connections. Their impulses have a common meeting point before final distribution. The excitations or impulses of the labyrinth are constantly flowing to the triangular and tory nucleus and the nuclei of Bechterew and Deiters from which they are reflected to the muscles giving them tone. Many eminent physiologists maintain from observing experimental and secondary degenerations that very few or no fibers are destined from the vestibular nuclei to those in the cerebellum hence the impulses from the labyrinth cannot be stored in the cerebellum. On the other hand however there are fibers the majority being direct whose origin is in the cerebellar nuclei that transmit excitations to the nuclei of Deiters-Bechterew. These centers receive excitations from two sources consequently both the labyrinth and the cerebellum may excite the vestibular nuclei in the medulla. Accordingly the labyrinth cannot send its impulses to the centers by the intermediation of the cerebellum. By the cerebellovestibular bundle the vermis is quite intimately associated with the labyrinth both anatomically and physiologically. Many of the connecting fibers being crossed each half of the cerebellum bears associative relations with both vestibular roots the preferential distribution being for the homolateral side. The two systems the labyrinthine and cerebellar augment each other in maintaining tonicity. Thus it is evident that a lesion of one gives rise to phenomena quite analogous to those resulting from a disease or an anomaly in the other. The symptoms however are not identical for the excitations are necessarily different. It is the vermis in particular that is in intimate physiological relation with the vestibular apparatus. Of course the nervous flux from the tegmentum of the vermis is not of the same nature as that from the labyrinth. The fibers also differ in their relation to the vestibular nuclei. The phenomena consequently vary.

The analogies and differences of the labyrinthine and cerebellar activities are made evident by comparing the functions of each system. The cerebellum is not the seat of any special sense according to many physiologists. It is not the storehouse for labyrinthine impressions. Cases with cerebellar disease do not present any anomalies in compensatory reaction of the head and eyes. The perception of movement during rotation is intact in these cases. Organic functions and the muscular sense are

separated from the cerebellum. The anomalies in cerebellar cases consist in disturbances of mobility and muscle tonus. The fundamental symptoms of cerebellar cases are disequilibrium, dysmetria, hypotonus, asynergy and tremor. The cerebellum increases the duration of contraction and of tonic activity converting clonus into tonus.

It is a noticeable fact that the phenomena of cerebellar disorder become exaggerated in the event that the labyrinth is also affected. Likewise symptoms of a diseased labyrinth become augmented when complicated by a deranged cerebellar function, suggesting an interrelationship in both normal and abnormal activity.

While in labyrinthine disease the phenomena are comparable to those observed in disorders of the cerebellum yet the analogy is not so close but that some differences may be observed. Labyrinthine cases present a marked diminution in muscular energy and tonicity. Both hypotonus and loss of energy are much greater than in cerebellar disease. Disturbances in equilibration are quite characteristic and occur early. There are oscillations of the head and rotary motion especially marked in bilateral lesions the gait being uncertain and the base of support enlarged. These movements are more or less isolated not forming an organized systematic group as in disturbance of the cerebellum. If the amplitude of the oscillations of the head is great the gait is zigzag or wavy. The labyrinth gives the individual his position in space. When there is a break in the vestibular mechanism one loses perception of attitude and of progression the oscillations of the head disturbing the equilibrium.

Disequilibrium is exaggerated by variations in the position of the head. In other words abnormal attitudes of the head result from labyrinthine disturbance hence disorientation of the head produces disorders of equilibrium. In normal or even in cerebellar cases appropriate reactions are made to resist disturbance in balance but in vestibular cases there is no resistance to propulsion or lateropulsion no resistance is offered to falls. There is no reaction to an inclined plane or a moving surface. These individuals cannot perceive movements of rotation about a longitudinal axis. Vestibular cases and many deaf mutes when rapidly rotated in a longitudinal axis are not affected with vertigo. There is no reaction to such movements. Cerebellar cases react appropriately. This sustains the thought that the cerebellum is not the seat of perception for attitudes. In suppression of vestibular function the movements requiring precision are mostly affected. In a loss of muscle tonus there is a corresponding diminution in muscular sense hence movements lose their potentiality and precision. The Romberg symptom is the rule. The ataxia is not the same in vestibular and cerebellar cases. The former is characterized by disorientation of attitude and the Romberg symptom. In the cerebellar ataxia direction or orientation of

there is no hurry half a minute may be taken to divide the whole tendon. When the tendon is divided withdraw the tenotome and at once seal the opening with celloidin and gauze.

After the sternal tendon is divided the clavicular tendon if it require division at once springs up into the area of operation and appears as a tense band under the skin just as the sternal tendon had previously done. The sharp tenotome is again taken a vertical puncture again made at the inner side of this tendon and the operation completed exactly as before. No attempt is made to divide deep bands of fascia. After the first pad of gauze and celloidin is set or if both tendons have been divided after the second pad the surgeon takes the patient's head and firmly but gently twists it around until the chin is over the shoulder of the affected side as it is moved around any bands of fascia which perhaps still retain the head in a bad position give way. Turning the head straight again the operator bends it sideways until the ear on the unaffected side can be made to touch the shoulder on that side. The head is then laid straight a pad of wool fixed over the gauze with strapping and the patient left until the next day when the same two movements are performed again. On the third day the patient is allowed up. M S HENDERSON

Hunnleutt J A. The Absence of Hyperplasia of the Remainder of the Thyroid in Dogs After Autotransplantation of the Thyroid. *Am J M S* 94 cxlviii 207. By Surg. Gynec & Obst.

The author notes that in 1887-1888 Halsted showed that in dogs hypertrophy took place in the remaining portion of the thyroid gland after small pieces of the lobe had been removed. In the experiments recorded by the author the operation of piecemeal removal was performed on 39 dogs and the wounds with few exceptions healed absolutely *per primam*. In only one of these 39 dogs did the remainder of the thyroid present a picture of marked glandular hyperplasia. In experiments on 36 dogs only 3 of the pieces obtained at the second operation or a topsy-diddleder microscopically from the pieces removed at the first operation. In these three instances the change was from early glandular hyperplasia to normal.

Of 42 transplantations 19 were successful. The amount of private use of thyroid gland in the animals yielding the living graft varied from one fifth of one lobe to one and seven eighths lobes. Two thirds of one lobe was removed from one dog and portion of the piece was transplanted at the same operation. The graft was not removed at the second operation nor at the third when the gland in the neck was reduced in amount to four fifteenths of one lobe. The graft was obtained at the fourth operation when it had been in the abdominal wall for six months, it had changed from normal to very early glandular hyperplasia. The four fifteenths of the one remaining lobe in the neck of this dog has undergone the same change.

From the author's experiments and study he makes the following summary:

1 One and three fourths of the dog's thyroid gland may be removed without appreciably affecting the remainder of the gland.

2 In only 3 of the 59 dogs on which the operation of piecemeal removal was performed did the remaining gland change from a normal to a hyperplastic state.

3 In 5 of the 59 dogs the remaining gland reverted from the early hyperplastic state to the normal.

4 When a diagnosis of some degree of hyperplasia was made at the first operation the pieces removed from the same dogs at subsequent operations had not undergone further hyperplasia.

5 Of the pieces removed from 56 dogs at the first operation 38 per cent were normal, 32 per cent showed early glandular hyperplasia, 5 per cent showed marked glandular hyperplasia and 5 per cent showed very early glandular hyperplasia.

6 Definite increase in the size of the remaining gland—hypertrophy—was not observed.

7 The remains of the thyroid lobes, the accessory thyroids and the successful grafts in a given dog presented the same histological picture.

8 In no dog was myxedema or tetany observed in which as much as one fourth of the thyroid and one entire parathyroid gland were preserved.

GEORGE E. BILLY

Ball C F. Clinical Application of Abderhalden's Reaction to Enlargement of the Thyroid. *Ist Int M J* 94 cxvii 77.

By Surg. Gynec & Obst.

According to the author, Abderhalden's reaction has shown the presence of 0.4 per cent of amino-acids in normal blood. In diseased conditions this amount is increased, producing a hyperaminoacidemia. The protective ferment is produced by the group of cells being invaded and it has a specific digestive action against the invading cells.

The author claims that in thyroid enlargements the application of the test tends to demonstrate that a specific ferment is produced for the condition present. Any diseased condition of the gland will produce a ferment that will digest normal thyroid but only a true carcinoma of the gland will a cancer-splitting ferment be produced. Carcinoma and sarcoma produce a ferment that reacts interchangeably.

Three goiter cases are reported. A carcinoma with metastases in the regional lymphatics and a recurrent sarcoma of the thyroid gave positive reaction. An exophthalmic goiter gave a negative reaction with cancer proteid as a substrate.

I. H. FALLS

Lahey F H. Thyroid Operations Under Local Anesthesia. *B to U & S J* 94 lxix 398. By Surg. Gynec & Obst.

The experience and conclusions from a series of operations upon the thyroid under local anesthesia are reported by the author.

movement is preserved sensibility is undisturbed there is a reaction to propulsion the Romberg phenomenon is absent

Three cases are reported illustrating the relation of the labyrinth to the cerebellum

Cushing II Surgical Experiences with Pituitary Disorders. *J Am Med Ass* 941 55
By Surg Gynec & Obst

The author recalls the fact that much of our knowledge of pituitary disorders has revolved around the question of tumor using the term in a comprehensive sense. It was the presence of a tumor which first led Marie and subsequently Frohlich to couple with this comparatively obscure gland the syndromes which bear their names and as a usual thing today manifestations of tumor continue to be necessary guideposts so that those who venture to predict pituitary disease in the absence do so with misgivings and merely on the ground that similar constitutional symptoms have been known to arise in conjunction with a growth.

Aside from the presence of the tumor the author states that pituitary disease may bear little relation to the size of the lesion so outspoken acromegaly may occur with but little enlargement of the gland and the counterposed secretory state may accompany a primary glandular hypoplasia so that tumor may not enter to the question at all. Conversely a surprisingly large tumor producing extreme distortion of the structures of the interpeduncular space may give in significant and hardly appreciable clinical evidence of its presence.

Cushing particularly calls attention to the fact that endocrine expression of a pituitary disease are rendered in increasingly complicated as soon as an attempt is made to differentiate between the symptoms produced by two lobes of the gland for they have very different physiologic activities. It is possible that there may be an overaction and action of one lobe alone or an overaction of one lobe associated with insufficiency of the other and as in the case of the adrenal cortex versus the medulla attempts have been made to disengage from the combined picture the symptomatology of a lesion confined to one or the other of the anatomical divisions. Furthermore additional complexity is added by the polyglandular nature of every ductless gland disorder which in some cases is so apparent as to make it doubtful which of the endocrine organs is primarily at fault.

The author confesses to the difficulty of satisfactorily classifying all of the examples of hypophyseal disease of which he has records but to give some idea of the character of the cases which he is reviewing from the standpoint of surgical treatment he divided his cases at two groups viz those cases for a number presenting definite tumor manifestations and those 47 in number without local signs of the disease. These or cases may be conveniently subdivided into the 43 cases in which the tumor has apparently arisen from some supra-

sellar source—usually from a congenital enlargement and the 53 cases in which an actual enlargement (struma) or tumefaction of the gland itself has served to call forth the local symptoms. The 148 cases are further classified on the basis of their endocrine or constitutional symptoms, irrespective of a tumefaction or otherwise of the gland or its environs: (1) endocrine symptoms on the side of hyperpituitarism (2) endocrine symptoms on the side of hypopituitarism (3) endocrine symptoms of a polyglandular character.

Regarding operative statistics in the series of 148 patients with evidences of a hypophyseal derangement manifestations of tumor were present in 101 cases. In 95 of these cases surgical measures were undertaken. In a number of patients in the earlier series operations were attempted which experience has shown to have been useless but possibly these are offset by the number of favorable cases in the series that have refused operation. Hence it may be roughly estimated that about two-thirds of the individuals with outspoken pituitary disease suffer from defects of vision or from pressure discomforts, capable of some measure of surgical relief.

The various types of operation from the side from in front and from below the author indicates as follows:

	Cases	Open	Failed
Subtemporal decompressions	33	37	3
Subtemporal explorations	8	8	0
Subfrontal explorations	5	6	1
Transphenoidal decompressions	16	16	3
Transphenoidal extirpations	52	58	4
	114	125	10

GEORGE T. BRIST

NECK

Roth P B The Treatment of Torticollis *Bull Am J* 94 667
By Surg Gynec & Obst

The paper is a plea for a cutaneous tenotomy and not the open operation. Roth has searched the literature for the reason for abandoning the tenotomy operation but discount the few he was able to find. The technique is given in detail as follows:

Place the patient under a general anesthesia. Put the neck with iodine while the tendon is being made prominent by gentle traction. Introduce with the blade held vertically a sharp pointed hook-bladed tenotome immediately to the inner side of the sternohyoid head half an inch above the sternum when the way is less than that do without and insert a blunt pointed tenotome a little more carefully behind the tendon. Turn the blade at right angles to the tendon and stroke the tendon with little short strokes while the patient puts the muscle on the stretch the tendon gradually gives away but the fiber bundles fibers are cut through

2 Are the results of medical treatment satisfactory?

3 Is operation associated with a high mortality?

4 Are the results of surgical treatment more satisfactory in the end than those of medical?

5 Is there any danger of myxœdema following operation?

He reports a series of 14 cases operated upon the results of which may be summarized as follows:

In several of the cases on account of the short period intervening the author was unable to give any definite conclusion all however showed distinct improvement. In one case this improvement was slight and in another case there was a certain amount of recurrence of the symptoms after

a temporary marked improvement. The author however thought that possibly in this latter case enough of the gland had not been removed. Of the remaining 12 cases 8 returned to work in from two to three months after operation and have since been able to continue it the other 4 who had been operated upon less than three months before had not been allowed to attempt work although 2 of them had expressed themselves as capable of doing so. The exophthalmos has disappeared entirely in 4 cases is very slight in 3 and has considerably improved in 4 others 8 cases still have slight palpitation and dyspnoea on exertion but in 5 of them to a slight degree only.

GEORGE E. BEILBY

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Guthrie D. The Rodman Operation for Breast Cancer. *J Am M 11* 9: 3 km 56
By Surg Gynec & Obst

Guthrie and his assistant Molyneux have performed the Rodman operation 74 times in the last 3 years and while the time has been too short to reach any conclusions as to results they are impressed with its good points and believe it to be one of the best radical operations.

In the operation Rodman emphasizes the importance of a primary axillary dissection when the axillary involvement is known many advanced cases need not be subjected to a radical operation. The primary incision is a straight one beginning one inch below the clavicle two finger breadths from and parallel to the sulcus between the deltoid and pectoralis major muscles. The axilla is exposed by dividing the pectoralis major and minor tendons. The clavicular portion of the pectoralis major is left unless the tumor is in the upper outer quadrant. The dissection of the axilla begins from above downward and within outward. The acromial long and alar thoracic, and subscapularis arteries and veins are tied and cut no enlarged glands are dissected out the axillary contents being removed en masse.

The breast is removed by an incision beginning at the middle of the primary incision encircling the breast and extending downward to a point midway between the ensiform and umbilicus. The subcutaneous tissues are everywhere cut on a slant to undermine the skin as Rodman and Judd believe that the spread of cancer-cells is along the lymphatics of the superficial and deep fascias.

Rodman advises exploring the supraclavicular gland by means of a separate incision if the growth is in the upper hemisphere or if the axillary glands are extensively involved. The upper portion of the sheath of the rectus is dissected away with the pectoralis major and minor.

The closure of the wound is begun where it is started near the clavicle. Closure of the oval is begun at the sternal end. Usually the closure can be completed without the use of skin-grafting. The author does not employ drainage except in fleshy patients or those in which there has been an undue amount of trauma and he says that his patients are rarely troubled by serum.

EUGENE CARY

Fetterolf G. and Arnett J. H. A Case of Spinae Deformity. *Am J V Sc* 10: 4 Cl 1 321
By Surg Gynec & Obst.

The authors report a case in which the scapula had a triangular facet on its vertebral border just below the spine. This facet articulated with a triangular shaped exostosis arising from the right lamina of the sixth cervical vertebra. The articulation was covered with a capsule in which fluid was enclosed.

The right laminae of the fifth sixth and seventh cervical vertebrae had not joined causing a condition of spina bifida. This exostosis had prevented abduction of the arm beyond the horizontal.

The case also presented anomalies in the muscles. There were anomalous slips and in one instance the rhomboides major and minor as muscles were absent their place being taken by white connective tissues whose fibers took the same general direction as those of the missing muscles.

JAMES O. WALLACE

McWilliams, A. Subscapular Exostosis with Adventitious Bursa. *J Am M 11* 10: 1014
Ibid 473
By Surg Gynec & Obst

The author reports a case of exostosis on the anterior surface of the left scapula about an inch and a half above the lower angle. The patient a girl of eighteen complained of pain in the affected region which was increased and accompanied by a grating sound on motion. The scapula had been growing more prominent since a fall twelve years

before. The diagnosis was made by roentgenogram and the growth removed by chiseling. It was 2.05 cm by 2 cm by 1.05 cm in size and consisted of bone surrounded by cartilage and a cystic wall of fibrous tissue. The symptoms were entirely relieved by operation and the shoulder resumed its normal appearance. W. A. CLARK.

Dunham K. New Application of Artificial Pneumothorax as a Therapeutic Measure. *Am J Rd lge* 9 4 33. By Surg. Gynec & Obst.

The author discusses at length the relative merits of the diagnosis of chest conditions by auscultation and percussion and by the roentgen method. He considers study by stereoscopic roentgenograms indispensable not only for the selection of cases suitable for nitrogen injection but also for the proper study of the progress of the disease and the management of therapeutic measures.

By auscultation and percussion it is impossible to map out the position or extent of collapsed lung or to define the heart outlines but the roentgenograms give positive information regarding these questions.

While artificial pneumothorax had been previously resorted to as a curative measure only in pulmonary tuberculosis the author used the procedure in treating a case of aneurism hydropneumothorax hamothorax and pleurisy with recurring fluid. W. M. A. EVANS.

Burnham A. C. Post Operative Pleurisy with Effusion and Empyema. *J. Gynec & Obst* 9 4 468. By Surg. Gynec & Obst.

Pleurisy with effusion and empyema are not uncommon following abdominal operations especially laparotomies for suppurative conditions in the upper abdomen.

There were 14 cases of pleurisy with effusion and 5 cases of empyema in a series of 13,013 operations. Two cases of empyema occurred in a group of 150 operations upon the stomach and duodenum.

An idiopathic pleurisy with effusion or empyema on the right side would always arouse suspicion of a subphrenic abscess, gastric or duodenal ulcer.

Serous fluid in the chest following an operation upon the abdomen is the most common type of effusion and the majority of the cases recover but empyema while less common is extremely fatal. The mortality of the cases studied being 100 per cent. It was only present in all cases, but in many cases of pleurisy occurred in which there were no other symptoms referable to the chest.

The relation between post-operative empyema and subphrenic abscess should be emphasized. A purulent effusion in the right chest after an operation for an upper abdominal condition is almost invariably associated with an abscess beneath the diaphragm. Consequently such an effusion should always lead to the immediate exploration of the subphrenic space even in those cases in

which there are no signs or symptoms referable to the abdomen.

Pleurisy with serous effusion may disappear spontaneously or may be cured by aspiration but when the fluid is turbid or frankly purulent treatment must be instituted to overcome the subphrenic infection as well as that of the pleural sac.

Case histories with autopsy reports are given in detail showing the relation of pleural infection to the primary disease.

Haines, W. D. Tumors of the Mediastinum. *J. H. Surg. Ass. De* 10 4 Dec. By Surg. Gynec & Obst.

The classification of tumors constitutes one of the most changeable and unsatisfactory chapters in surgical pathology. Each textbook contains a different classification and each author thinks he has the best. There is, however, an encouraging note in the wide discrepancies of opinion in books published within the quarter of a century just passed in that with the increase of knowledge concerning causal factors in the production of tumors there has come a gradual diminution in the number of morbid conditions formerly known as tumors. This better comprehension of production of tumors has resulted in the combining under one head of a number of conditions which were formerly considered as independent.

Uppermost in this evolution is the recognition by investigators that tumors are made up of tissues normally present in the human body. The new growth is but a new arrangement of old structures. This does not imply that the new growth is made up of tissues identical with its immediate surroundings but that the component parts may be found existing normally in the body. Chondromata occurring in glandular tissue demand cysts of the ovary, and numerous other examples will come to mind wherein totally unlike foreign tissue has been found in tumors but upon examination it is found that such foreign tissue exists as such elsewhere in the body and the task of explaining the presence of such tissue in an unusual location is left to the imagination.

By far the greater number of intrathoracic tumors are located in the mediastinum except aneurisms they nearly all have their origin in the glandular tissue contained in this space. Neoplasms of the chest occur throughout the mediastinum usually in the spaces in the course of the development. While it is manifest that the development of the mediastinal manfolds which will determine the development of the mediastinum is of great importance it is not yet determined still it is of more importance to determine the true nature of the growth and the effect it will produce on the surrounding structures. The scheme of diagnosis therefore should include careful consideration of the early and more or less obscure symptoms and signs in the culture in the

tions of the laryngeal muscles and pleuritic irritation and cough with or without effusion. These growths may be classed as benign and malignant tumors the former group including aneurism, gumma and tuberculosis the latter including sarcoma and carcinoma.

Conclusions founded on observations of the natural history of these several growths will best serve for their early recognition and differential diagnosis. Some of these growths run a much more rapid course than others some present marked constitutional symptoms and serious impairment of the general health long before symptoms referable to the chest manifest themselves.

Growths springing from the connective tissue in the mediastinum—sarcomata—may attain considerable size without producing symptoms owing to the laxity of the tissue and the ease with which enlargement may take place in all directions. In the author's opinion this is a valuable point to remember in attempts at localization of chest tumors. The site of aneurism is more or less fixed and it is in this type of cases that those enormous deformities of the chest are encountered such as bulging erosion and fracture of the bony cage. Extensive deformity occurring relatively early in the history of intrathoracic neoplasms may be induced by implication of a bronchus which causes collapse of the corresponding lung and compensatory expansion of the opposite side.

Pain to some degree is usually present, but the chief complaint of the patient suffering from mediastinal tumor will be his inability to get his breath, the pain, cough and aphonia are annoying but the dyspnea persistent and terrifying filling the patient's mind with ominous forebodings. This the most prominent of the subjective symptoms is characterized by a wide discrepancy between the amount of exercise and the respiratory disturbance which follows. The author states that he has seen a patient sitting in perfect comfort bring on a violent spasmodic coughing seizure and serious respiratory embarrassment by merely walking across the room.

A review of the more prominent differential diagnostic points and a report of two cases operated upon by the author concludes a paper on a subject not frequently mentioned in surgical literature.

TRACHEA AND LUNGS

Pirre, A. H. Pulmonary Abscess. *Surg. Gynec. & Obst.* 94: 119-129. By Surg. Gynec. & Obst.

The author cites five cases illustrating the value of X-rays in the diagnosis and treatment of abscess in the lung. Three of these cases were shown by X-rays to be suitable for operation. Of the remaining two one was also suitable but was complicated by the presence of tubercle bacilli in the sputum. The fifth case presented the clinical signs of abscess but X-rays demonstrated that operation was not indicated as no localized collection of pus was present but rather a large dense area corresponding

to a gangrenous lung. In the latter case operation was followed by death. In the first three cases recovery followed operation with gain in weight in each case. The case of abscess accompanied by extensive tuberculosis was not treated. The following conclusions may be drawn from the author's data:

1 Abscess in the lung partly filled with pus and partly with gas can be diagnosed by X-rays.

2 A negative made with the patient lying prone is of no value.

3 A negative made with the patient erect will not show the condition unless the horizontal ray from the X-ray tube has passed through the horizontal upper border of the fluid.

4 It is essential to make a fluoroscopic screen examination with the patient erect and to move the X-ray tube from the level of the upper part of the chest to the lowest part of the chest in looking for the horizontal line. It may even be necessary to turn the patient from side to side in order that the horizontal line may be shown exactly.

5 The horizontal line having been found the patient should be placed on the affected side the hips being raised a little so the spine will be horizontal. An anteroposterior screen examination should be made and it will be found that the horizontal line of the fluid in the abscess is parallel with the spine. The upper and lower levels of the abscess are thus defined.

6 Stereoscopic views of an abscess do not appear very clear as neither the horizontal line nor the congested tissues around the abscess lend themselves to stereoscopic work. An attempt should be made to localize the gas above the abscess. A practical method is to place lead buttons in front of and behind the chest so that they are in line with the gas in the abscess then change the position of the tube and repeat the proceeding join by imaginary lines the positions of the first two lead buttons and of the second two. The gas lies where these imaginary lines meet and a sufficient idea is gained of the depth to help the surgeon in his operation.

7 The surgeon should smelt the trochar after each exploratory puncture. ARTHUR B. CUSTACE.

Carl, Experimental Studies in Influencing Pulmonary Tuberculosis by Operation on the Phrenic Nerve (Experimentelle Studien über Beeinflussung der Lungen tuberkulose durch operation an Massnahmen am N. phrenicus). *Deutsche Zeitschrift für Chirurgie* 94.

By Zentralblatt für Chirurgie 1 Grenzgeb.

Carl tested the effect of unilateral section of the phrenic nerve on the thorax and thoracic ganglia in experiments on rabbits. The operation was easy but care was taken to cut the phrenic deep enough below the root of the sixth cervical nerve a branch of which it frequently carries. Pieces 1 to 1.5 cm long were resected whereupon the thorax on the side operated upon became still immediately. Autopsy after a few months showed that the thorax on the left side had sunk in and that there was more

before The diagnosis was made by roentgenogram and the growth removed by chiseling It was 3.05 cm by 2 cm by 1.05 cm in size and consisted of bone surrounded by cartilage and a cystic wall of fibrous tissue The symptoms were entirely relieved by operation and the shoulder resumed its normal appearance W A CLARA

Dunham K New Applications of Artificial Pneumothorax as a Therapeutic Measure *Am J Surg* 41:33 By Surg Gynec & Obst

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The relation between post operative empyema and subphrenic abscess should be emphasized A purulent effusion in the right chest after operation for a suppurative abdominal condition is almost always associated with an abscess beneath the diaphragm Consequently a high effusion should always lead to the immediate exploration of the subphrenic space even in those cases in

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Hines, W D: Tumors of the Mediastinum *Trans Am Surg Assn* Dec 1914 Dec By Surg Gynec & Obst

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Uppermost in this evolution is the recognition by investigators that tumors are made up of tissues normally present in the human body and the new growth is but a new arrangement of old structures This does not imply that the new growth is made up of tissues identical with its immediate surroundings but that the component parts may be found existing normally in the body Chondromata occurring in glandular tissue dermoid cysts of the ovary, and numerous other examples will come to mind wherein totally unlike foreign tissue has been found in tumors but upon examination it is found that such foreign tissue exists as such elsewhere in the body and the task of explaining the presence of such tissue in an unusual location is left to the imagination

By far the greater number of intrathoracic tumors are located in the mediastinum except aneurism they nearly all have their origin in the glandular tissue contained in this space Neoplasms of the chest occur outside the mediastinum usually involve these spaces in the course of their development While it is manifest that the life of the tumor will dominate the clinical manifestations which accompany its development and determine the line of treatment to be instituted still it is of more importance to determine the true nature of the growth and the effect it will produce on the surrounding structures The scheme of diagnosis therefore should include careful consideration of the early and more or less obscure symptoms embracing muscular pains irregular heart action, difficulty in breathing or swallowing spasmodic affect

monary orifice could be enlarged. The operation consisted in suturing to the anterior side of the orifice a venous patch which permitted an increase in the circumference of the orifice after the arterial wall had been incised. The technique which was employed is described in detail by the authors also their after-care of the wounds and the animals.

The operation was carried out on 8 dogs. 6 of the animals survived and were in good health more than six months after the operation. The experiments therefore seem to show that it is possible to perform an operation the object of which is to increase the circumference of the pulmonary orifice without much endangering the life of the animal. This leads the authors to hope that operations of this type may in time be employed in the treatment of stenosis of the pulmonary artery in man. GEORGE E. BRILLEY

Carrel A.: Experimental Operations on the Sigmoid Valves of the Pulmonary Artery. *J. Exp. Med.* 9 4 xx, 9. By Surg. Gynec. & Obst.

The purpose of the author's study was to ascertain whether and to what extent intracardiac operations could be performed with safety particularly those that might be devised for cauterization of infected valves the suture of the foramen ovale or of two valves in a case of insufficiency and other plastic operations. The operations mentioned form a different class from those which have so far been performed because they involve the stoppage of the circulation through the cavities of the heart and the passage of air into the cardiac cavities and require great speed of execution.

The author at the beginning expresses his doubt as to whether the operation may ever be applicable to human surgery. He finally concludes that incision, suture and cauterization of the sigmoid valves of the pulmonary artery have been performed successfully in dogs. In the first series of ten animals there were only three accidents probably from largely preventable causes leading to the death of the animals. GEORGE E. BRILLEY

Brauer L.: The Treatment of Inflammations and Adhesions of the Pericardium (Die Behandlung der Herzentzündungen und Verwachsungen). *M. M. med. Ueber.* 4 9 4, 7. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Pericarditis sicca should be treated by absolute rest of the body and analgesic remedies especially in the cases with pronounced stenocardia. In the treatment of exudative pericarditis Brauer also recommends the use of diaphoretics but he warns against the too early or too forced use of physical

means of diaphoresis because of the danger of heart collapse. If there is empyema of the pericardium incision and drainage should be performed as soon as possible. Toxic pericarditis hydrops of the pericardium hemorrhage into the pericardium and pneumopericardium can be influenced little or not at all by treatment. In serofibrinous exudative pericarditis one or more punctures frequently save life.

As to diagnosis the author points out that even with large exudates there may be a loud pericardial friction rub. The form of the heart dullness is frequently that of a blunt pyramid but more often that of a large quadrangle. In the suppurative forms the indication is of course immediate operation in the other forms puncture is indicated. In rapidly increasing exudates that are compressing the heart and lungs puncture is a vital indication. In large exudates that are being absorbed it is a symptomatic indication. The complete emptying out of a large exudate is neither possible nor necessary.

For the puncture Brauer recommends Fraenkel's trocar and gives a warning against the use of the ordinary puncture needles. The best place for puncture is that recommended by Curschmann on the left side in the fifth or sixth intercostal space sometimes considerably outside the mammillary line. In internal adhesions which involve an obliteration of the pericardium there are not necessarily any symptoms. These appear only when there is an indurated pericardium.

In the diagnosis of external adhesions important points are an extensive drawing in of the bony wall of the thorax above the heart on systole followed by bulging of the wall on diastole simultaneous with the latter there is a loud heart sound. In adhesions that involve the large vessels of the heart there is sometimes a chronic congestion of the liver also swelling of the neck veins on inspiration.

In the diagnosis of adhesions of the pericardium roentgen examination is important. As to prognosis and treatment interference with the diastolic dilatation of the heart can only occasionally be overcome by direct operation on the induration but the interference with the systole can often be overcome to a surprising extent by cardiolytics that is the removal of the ribs over the heart as far as possible with their periosteum. The operation can easily be done under local anesthesia and consists in the resection of about 10 to 12 cm. of the fourth, fifth, sixth and seventh ribs. Those cases are best adapted to cardiolytics where the disturbance is due chiefly to mechanical interference with the heart's action. HARKNER

or less contraction of the lung even in the upper lobe this was of an extreme degree in some cases. When the animals had been infected with tuberculosis before the operation there was always less development of the tuberculosis on the side where the phrenic had been cut. The author thinks however that these results which were so good in animal experiments, cannot be considered as holding good in man as other conditions prevail in regard to the mode of infection.

SAUERBRUCH of Zurich believes that in the operative treatment of pulmonary tuberculosis one of the most essential points is the choosing of the right cases for operation. Older cases are better fitted for operation than the more recent ones. The prognosis of tuberculosis depends not only on its extent but also on the nature of the disease and as this can not be known before the operation it is sometimes not possible to avoid doing harm by the operation. He has operated on 177 cases and the operation had a bad effect on the disease in 27 but there were so many cases of marked improvement to offset this that a continuance of operative treatment is decisively indicated. It is the fibrous forms that are best fitted for operation. It must not be forgotten that even circumscribed tuberculosis may be much more extensive than can be demonstrated. Even apparently unilateral tuberculosis is generally bilateral. In spite of that unilateral operation is justified if a markedly progressive process is not demonstrable in both lungs. In 22 of his 177 cases Sauerbruch performed a unilateral extrapleural thoracoplasty. Three of these patients died from the operation and 27 were unfavorably influenced by the operation and died later. In 65 cases there was marked improvement and in 24 cases there was recovery that is, the sputum which had been abundant disappeared and the patients could resume their work. There were mostly very severe unilateral cavernous forms of pulmonary tuberculosis. He speaks of cure only when it has persisted for at least 180 days. Section of the phrenic and the high position of the diaphragm resulting from it is useful only in combination with other methods chiefly extensive thoracoplasty. He rejects the proposed method of filling cavities as it can only cause partial thoracoplasty and as the filling is generally discharged from a non-aseptic region as a foreign body.

WILMS of Heidelberg also treats the beginning stages of unilateral tuberculosis surgically. It has recently performed extensive resection of the ribs, but there is no essential difference between his wedge-resection and Friedrich's thoracoplasty. As extensive rib resection produces a high position of the diaphragm section of the phrenic is superfluous. He has had no unfavorable results with filling. Paraffin filling was used once successfully but was discharged once. Fat takes better as has been shown by autopsy—living cells could be demonstrated in the transplanted fat after 17 days. In rib resection he crushes the intercostal nerves

as this produces anesthesia of the wall of the thorax. Of his cases 4 recovered and 7 were improved.

FAIRBACH of Königsberg operates only on severe progressive cases and has written a dissertation in which he reports 8 cases of severe pulmonary tuberculosis. Hemoptysis was observed in several of these before operation but it never reappeared after operation. He showed one of these patients in excellent condition and showed roentgen pictures demonstrating the complete contraction and atrophy of the lung. KATZENSTEIN

HEART AND VASCULAR SYSTEM

Werelius, A. Experimental Surgery of the Heart, Lung and Trachea. *J Am Med Ass* 1914 Jan, 338. By S. R. Gynec. & Obst.

The author's experiments were carried out upon 130 cats. The conclusions are as follows:

1 The death rate in the heart work was 38 per cent in the lung research 50 per cent and in the tracheal experimentation only one case out of twenty five was saved.

2 Cats without heart-sac show very little if any disturbance.

3 If at the end of an operation on the heart the organ is acting poorly it is almost always fatal to suture the heart-sac.

4 The making of a new heart-sac from transplanted tissue is not very promising.

5 The opening in the pericardium should not be made too near the base of the heart as sewing it may cause too much traction on the vessels and, incidentally, on important centers.

6 Extreme traction on the heart is one of the greatest dangers in heart surgery.

7 Through and through aseptic puncture wounds unless through certain danger regions, create only a temporary disturbance.

8 Auscultatory findings were few in the operated heart of the cat.

9 The marvelous recuperative power of the heart is demonstrated by the recovery from multiple extensive operations on the organ.

10 The local atelectasis produced by pressure from sponges should be remedied by forcible expansion of the lung before the chest is closed.

11 The collapse of the chest wall in unilateral excision of the lungs is somewhat counteracted by mediastinal removal.

12 Certain contractile movements of the trachea are observed in excessive expiratory efforts.

13 In section and repair of the intrathoracic trachea a number of animals died from respiratory failure—seemingly reflex. J. H. Seelye.

Tuffier, T. and Carrel, A. Patching a Section of the Pulmonary Artery of the Heart. *J Exp Med* 94 3. By Surg. Gynec. & Obst.

The authors purpose these experiments was to develop technique by means of which the pul-

monary orifice could be enlarged. The operation consisted in suturing to the anterior side of the orifice a venous patch which permitted an increase in the circumference of the orifice after the arterial wall had been incised. The technique which was employed is described in detail by the authors also their after care of the wounds and the animals.

The operation was carried out on 8 dogs 6 of the animals survived and were in good health more than six months after the operation. The experiments therefore seem to show that it is possible to perform an operation the object of which is to increase the circumference of the pulmonary orifice without much endangering the life of the animal. This leads the authors to hope that operations of this type may in time be employed in the treatment of stenosis of the pulmonary artery in man. **GEORGE E. BRILLEY**

Carrel A: Experimental Operations on the Sigmoid Valves of the Pulmonary Artery. J Exp Med 94 xx 9 By Surg Gynec & Obst

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SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Ziembicki Surgery of the Lesser Peritoneal
Cavity (Ein Beitrag zur Chirurgie des grossen
Netheils) Zentrbl f Ch 94 h 480
By Surg Gyn & Obst

The author discusses the surgical importance of the lesser peritoneal cavity—bursa omentalis—and its anatomical relations. Pathologic conditions in the lesser peritoneal cavity that have been described include (1) hernias through the foramen of Winslow or through an atypical opening (2) liver abscesses with choleliths perforating through the foramen of Winslow into the lesser sac (3) hemorrhage into the sac caused by hemorrhagic pancreatitis or rupture of an aneurysm of the splenic artery (4) traumatic exudates of lymph (5) phlegmonous inflammation as a result of pancreatic necrosis with perforation into the lesser sac and (6) pseudo-cysts and real pancreatic cysts developing in the lesser sac.

The author reports two unique cases in this connection. The first case a man of 42 gave a history of gastric distress pain radiating to the shoulders, singultus and vomiting for 5 years. Examination showed a swelling in the upper abdomen above the umbilicus with dullness. A pancreatic or mesenteric cyst was suspected. A bismuth X-ray showed the stomach to be distinct from the tumor. Operation revealed a tumor the size of a child's head; the lesser peritoneal cavity. The fluid aspirated from the tumor was dark green and gave all the chemical tests for bile. The surface of the liver was smooth and the gall bladder absent from its normal position. The diagnosis was enormously dilated gall bladder in the lesser sac. A drain was inserted and the patient made a good recovery. Subsequently the patient vomited the same kind of material that came through the drainage tube hence a communication between the duodenum, stomach and tumor must have existed. The second case was diagnosed as a tumor of the liver but was found at operation to be a retroperitoneal tumor originating in the lesser sac. Necropsy confirmed this and histologic examination showed a fusocellular sarcoma with cystic degeneration. Only seven previous reports of the lesser peritoneal cavity have been reported in the literature. P. Ziemicki.

Imbert L. and Ziembicki D. Subumbilical Hernias of the Linea Alba Followed by Laparotomy (Hernies de la ligne blanche sous-ombilicale suivies de la laparotomie) Arch med 94 h 470
By Zentralbl f Ch 94 h 470
Geburtsh d Frauenz

Hernia of the lower part of the linea alba rare. They may be either spontaneous or traumatic. The latter may be due to injury but most of them follow laparotomy. It is generally found

in the history that healing was delayed by infection or that drainage had to be established for some reason. Spontaneous hernias are extremely rare; previous to 1904 there were only three cases in the literature. Like all hernias true hernias of the linea alba have a sac of peritoneum which protrudes under the skin. Anatomically they are to be compared to epigastric hernias. They should be treated surgically for severe incarceration is not unusual. Know.

Moschcowitz A. V. Strangulated Epigastric Hernia. Surg Gyn & Obst 94, 313, 310
By Surg Gyn & Obst

In view of the paucity of similar cases, Moschcowitz reports in detail the history of a case of a strangulated epigastric hernia. The hernia was made up of two portions, one a mass the size of an orange was composed of omentum which had become strangulated in a true hernial sac. The smaller portion was merely the fat enclosed between the two layers of the falciform ligament of the liver which had become prolapsed extraperitoneally. Operation was followed by recovery.

After a careful search of the literature Moschcowitz was able to find only ten additional authentic cases of this malady. The pathogenesis of which the author discussed in a previous issue of SURGERY GYNECOLOGY AND OBSTETRICS.

GASTRO-INTESTINAL TRACT

Hayes, M. R. J. X-Rays in the Diagnosis of Abnormalities of the Intestinal Tract. Surg Gyn & Obst 94, 310, 319
By Surg Gyn & Obst

Hayes states that to interpret accurately the various shadows produced by the intestines when loaded with an opaque substance is not by any means an easy matter and in viewing the radiograms it must not be forgotten that we are looking at the shadow cast by the object and not the object itself. Secondly, that the shadow of a loop of intestine when viewed obliquely sometimes gives the idea that the bowel is acutely kinked when in reality the curve may be the arc of a circle which may not be at all sufficient to cause delay in the passage of intestinal contents. The author then relates the administration of purgatives on the day immediately preceding the giving of the bismuth meal increases the progress of the intestinal contents for a day or two afterward and the route is similar to that of laxatives as a prelude to the X-ray examination of the intestinal tract is open to objection for this reason. The major portion of the article is taken up with good descriptions of strictures of the esophagus which may be pathological or traumatic. Spasmodic strictures usually occur at the cardia and of the type. The food passes

down normally in an elongated oval mass rounded at the head and tapering at the end. There is usually some dilatation above the contraction but no food passes into the stomach. As more food is swallowed the size of the shadow increases and the peristaltic movements become more violent until after a few minutes the spasm relaxes and the contents enter the stomach with a sudden rush. Sometimes food is retained in the œsophagus for a considerable period and there may be an inclination to regurgitate it but in such cases the patients rarely vomit and they can tell when the food has passed downward.

In cicatricial contraction the former history aids in diagnosis. There may be seen on the screen one or more situations where some narrowing of the lumen exists but the greatest narrowing is just above the diaphragm. In these cases there is not as a rule complete hindrance to the passage of the food which later may be observed to trickle through in a narrow stream. Here again the œsophagus is dilated above the site of the stricture but peristaltic movements are more active and violent and as contraction follows contraction the contents sometimes rise as high as the arch of the aorta or there may be regurgitation. There is never a sudden emptying of the food into the stomach as in œsophagismus.

Malignant strictures are most commonly met with in men. The usual situation is near the cardiac end but they frequently occur in the neighborhood of the level of the bifurcation of the trachea. Along the line of the œsophagus many dark shadows may be observed which are produced by malignant lymphatic glands. In cancer of the œsophagus the food passes normally until it reaches the site of the stricture through which as in the preceding variety it may pass in a thin stream or there may be complete occlusion of the canal. Peristaltic movements are feeble or absent.

E. H. SKINNER

Eisen F. Radiological Contributions to a Diagnosis of Obstruction in the Alimentary Tract. *Ed 11 M J 914 x 147*

By Surg. Gynec. & Obst.

The author enumerates the many advantages of roentgen diagnosis of obstructions in the œsophagus, stomach and intestines. By the use of the opaque meal or an opaque enema in colon studies, the obstructions can be definitely located, the degree of obstruction determined and the cause of the obstruction can often be determined.

The importance of a complete and careful examination of the entire tract as well as of repeated examinations, is urged. Many deformities causing obstruction can be demonstrated to be due to spasms and in these cases the source of the intonation is found farther along the intestinal tract. The most common example of this is the spasm of the duodenum due to an inflamed appendix.

The author points out the value of the roentgen findings in determining the proper surgical treatment

of obstructions. It suggests the proper location for gastro-enterostomy, the necessary loops for a short circuiting of the bowels and in cases of gastric carcinoma, it may show the futility of laparotomy.

Wm A. Evans

Brown T. R.: The Value and Limitations of Fluoroscopic Examinations of the Gastro-Intestinal Tract. *Wryl and M J 9 4 1911 247*

By Surg. Gynec. & Obst.

Brown's method in gastro-intestinal bismuth examinations is as follows. The patient is given one ounce of subcarbonate of bismuth 18 hours before the examination, a bowel movement being avoided if possible and then another ounce thoroughly stirred up in a glass of water is given either just before or synchronous with the examination. He prefers a fairly thick gruel of farina or oatmeal to water as a vehicle.

The usual fluoroscopic examination with the patient in the upright and horizontal positions is described then the author discusses the relative value of the fluoroscope and the radiograph giving the classical comparison. He does not present any original items upon roentgenoscopy of the abdomen but gives a description of the various lesions and their roentgen interpretations. His conclusions are that the plasticity of the fluoroscopic method, the ability by its means to study the dynamics, as it were of the gastro-intestinal tract to unfold before us its physiology as well as its anatomy, the possibility of noting under our eyes the effect of the respiratory movement, the change of position of various forms of treatment, mechanical, medical and otherwise—all these have made it a diagnostic aid in the field. To expect one method to solve a problem of great difficulty is fundamentally wrong—very few fluoroscopic findings are absolutely diagnostic, individual interpretation of the picture presented varies definitely with the operator as almost if not absolutely some of the pictures may be presented by different conditions.

E. H. SKINNER

Price E.: The Roentgen Ray and Bismuth Meal Method as an Aid in Diagnosis of Alimentary Disease. *Ed 5 M J 9 4 1911 53*

By Surg. Gynec. & Obst.

Price believes that the most brilliant achievement of abdominal roentgenology lies in the direction of confirming conclusions already arrived at by other and better known methods than in that of making independent discoveries and the nearer we approach to perfection with our diagnosis the greater is the necessity for a thorough clinical examination. Price's opaque meal consists of 25 oz of bismuth oxychloride or pure barium sulphate and 25 oz of bread crumbs with about 6 oz of hot milk and sugar. Price considers only the roentgenoscopy of the colon, illustrating his text with several radiographs of quite usual cases and a very beautiful roentgenogram of Hirschsprung's disease.

E. H. SKINNER

Wilson H S Routine Technique of the Test Meal and Bismuth X Ray Work *J La et* 1914 xxiv 5: By Surg Gynec & Obst

To prepare the patient for a test meal the bowels are emptied and the usual dinner taken with meat and some coarse vegetable at 10 p.m. a meat sandwich with lettuce leaves is taken at 11 p.m. 20 raisins at 7 a.m. two slices of dry bread a cup of weak tea, and a cup of cold water. The tubing is inserted one hour later for both motor meal and test breakfast. This gives 8 and 9 hour periods for the raisin skins, meat and vegetable leaves to pass from the stomach. Aspiration is unnecessary as the patient can express the contents by pressure with the hands and by coughing helped by slight in-and-out movements of the tube.

After the stomach contents have been withdrawn if it is also a test meal case the patient is given two ounces of barium sulphate in any convenient palatable medium and nothing being ingested in the meantime it is examined with the screen in six hours. The stomach should be empty and the presence of much residue almost certainly means an organic condition. The head of the barium meal should be at or near the caecum but the position varies with the motility and with the stomach acidity. It is advanced with low acidity and retarded with high acidity. The patient then drinks eight ounces of water containing two ounces of bismuth and its progress down the oesophagus and into the stomach is closely watched. When in the stomach it is palpated to all parts outlining the cardia the greater and lesser curvatures, and the pylorus through which it is forced if possible in order to visualize the duodenum. The stomach is then filled with two ounces of bismuth in a good suspension medium. This should distend the stomach and reveal irregularities of the walls, such as filling defects or incisura. Next the peristalsis is studied noting whether it is diminished, normal or increased. It is often necessary to wait several minutes to determine its activity. A continuous exposure is not necessary—an occasional flash will keep one posted. In all cases in which the screen findings are not perfectly clear or where there is a suspicion of a filling defect two or more plates should be taken with the patient in the erect position unless the suspicious point is in the paraspinal area. The chest is screened as a routine and many interesting conditions that have not given physical signs are discovered. A chart illustrates some of the principal X-ray findings.

D. van R. Howar

Friedman G A The Difference in the Morphology of Blood in Gastric Ulcer Duodenal Ulcer and in Chronic Appendicitis. *Am J Sc* 1914 cxl vi, 54 By Surg Gynec & Obst

Friedman collected 12 cases of gastric ulcer 18 cases of duodenal ulcer and 30 cases of appendicitis, and made a careful study of the blood findings in each case with the intention of finding the differential

diagnosis in these three conditions by means of a study of the blood.

He tabulated the operative findings of each case in detail dividing the gastric ulcers into two groups—pyloric and non-pyloric. A few differences of these two groups are tabulated under the head—

CHIEF CHARACTERISTICS

Pyloric group

Anemia

Absence of leukocytosis

Relative eosinophilia

Non pyloric group

Polyglobulia

Leukocytosis

Absence of relative eosinophilia

Duodenal ulcer is then considered. The characteristics of non-hæmorrhagic duodenal ulcers are (1) polycythæmia (2) absence of relative lymphocytosis (3) absence of relative eosinophilia. The chief characteristic is polycythæmia.

As case histories with the results of the examination of the faeces were given elsewhere it need only be mentioned that the presence of occult blood in the stools is not as frequent as is generally believed. A history of repeated intestinal hæmorrhages was given in one case in which the blood showed anemia.

The author then discusses the blood findings in appendicitis the chief characteristics of which are (1) large mononuclears (2) transitionals and (3) leukocytosis.

From the tables it can be seen that there is a relationship and a difference in the blood of pyloric non-pyloric and duodenal ulcers, and appendicitis. The blood in non-pyloric ulcer is related to the blood of duodenal ulcer so far as erythrocytes lymphocytes eosinophiles and transitionals are concerned, but differs in regard to the number of leukocytes. The presence of leukocytosis in non-pyloric ulcer makes the blood in this condition related to appendicitis. The most striking difference is found between the blood of pyloric ulcer and that of non-pyloric and duodenal ulcers.

The difference in the morphology of blood led to the construction of blood pictures: the pyloric non-pyloric and duodenal types. The blood picture in appendicitis although it has special characteristics—large mononuclears which were absent from the blood in ulcers of the stomach and duodenum—does not represent a special type but is a combination of types. The author cites four cases to illustrate his point. C. S. 101.

Ahrer J K W Cause of Round Ulcer of the Stomach (Über die Ursache des runden Magengeschwürs). *M D G* 1914 cxlvi 26
44 xx vi 270
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Ahrer believes that the cause of round ulcer of the stomach is repeated or permanent irritation of the mucous membrane of the stomach and that cramp of the sphincter of the pylorus is the chief

cause of this. A longer interval between the openings of the pylorus causes the stomach to be longer in emptying and an increase in the degree of acidity because of lack of neutralization from the duodenum this causes increase in the motor function of the stomach. This increased muscular action endangers the arterial supply of the stomach since the smallest arteries are cut off by the muscle contractions.

In order to cause delayed opening of the pylorus experimentally the author ligated in dogs the common bile duct and Wirsung's duct which empty into a common ampulla in the duodenum and the duct of Santorini. He implanted the pancreatic duct into the appendix or lower ileum, and conducted the bile by anastomosis with the gall bladder into the same place in the intestine. In 6 animals there were marked injuries to the wall of the stomach. There was a dark brown closely adherent membrane and a superficial and circumscribed necrosis of epithelium after 13, 64 and 25 days and a deeper necrosis of the mucosa after 9, 25 and 106 days, which macroscopically and microscopically were true ulcers. There were no thrombi or emboli either in the stomach or in the liver and pancreas. All the dogs were very much emaciated from failure of digestion in the small intestine and showed a certain caution in eating. One dog vomited constantly. BERNARD

Lockwood C. D. Round Ulcer of the Stomach in Children Before Puberty. *Surg Gynec & Obst* 914 xi 46 By Surg Gynec & Obst

Round ulcer of the stomach in children before puberty is comparatively rare. However a review of the literature would indicate that it is much more frequent than is commonly believed. It is frequently overlooked and the diagnosis of appendicitis, gastroenteritis or ptomaine poisoning is made. After quoting various authors as to the rarity of this affection the author reports a case which was diagnosed and successfully operated upon. The case was that of a girl 13 years of age who was suddenly seized with pain in the left side thought to be pleurisy. The pain gradually increased in severity and became localized in the abdomen. It was worse at night and paroxysmal in character. The child was hungry and constipated. The chief points upon which the diagnosis was based were characteristic pain, watery stools and the detection of gas gurgling through the pylorus at the height of the paroxysm. The diagnostic sign the author regards as important. Operation revealed extensive cartilaginous like adhesions, rendering posterior gastroenterostomy impossible. An anterior operation with a long loop was done following which the child rapidly improved, regaining normal health and then developed symptoms of obstruction. A second operation revealed inoperable conditions due to the rigidity of the stomach wall and to adhesions. The child died two weeks later.

Post mortem examination showed extensive ulceration on the greater curvature of the stomach. The pylorus was surrounded by dense tissue and the liver studded with metastatic growths. There was also general metastasis. The microscopic diagnosis was carcinoma implanted on a gastric ulcer.

The author reviews the literature reporting about 50 cases collected by himself, 10 of which had been treated surgically. One hundred twenty five cases in all are reviewed.

Balfour D. G. Treatment by Cautery of Gastric Ulcer. *Surg Gynec & Obst* 94, xix, 528 By Surg Gynec & Obst

Balfour describes a method of treating gastric ulcer by the cautery. He calls attention to the somewhat formidable character of the usual treatment of gastric ulcer by excision and suture to the immediate post operative dangers from hemorrhage and impaired gastric motility, and to the later complications of deformity and hemorrhage. He has therefore been led to devise a method of destroying the ulcer in such a manner as to obviate any possibility of hemorrhage and the destroying of an appreciable amount of healthy gastric wall. He notes the long and satisfactory use of the actual cautery in dealing with many superficial ulcerations.

As applied to gastric ulcers, the author's technique is as follows. The portion of the gastrohepatic omentum in the region of the ulcer is carefully dissected free from the lesser curvature. The ulcer is carefully palpated and with a Paquelin cautery maintained at a dull heat the point is slowly carried through the ulcer until an artificial perforation is produced. The moderate burning is continued until the actual area of the ulcer is entirely destroyed. Closure of the opening is then made by interrupted sutures of chromicized catgut reinforced by mattress sutures of silk. The reflected gastrohepatic omentum is then replaced over the site of the ulcer and fixed by superficial interrupted sutures of fine silk.

Kane C. O. Gastrostomy in Desperate Cases of Peritonitis. *Int Med J Surg* 94, xiv, 344 By Surg Gynec & Obst.

The author advises gastrostomy under local anesthesia for stercoraceous vomiting, abdominal distention and that in desperate cases of peritonitis. He claims this procedure imposes less discomfort and less shock than gastric lavage and the relief is complete and permanent. The patient need not be removed from bed for this operation. The author has devised a special cannula and metal abdominal plate for retaining the tube in a fixed position. An ordinary stiff rubber tube will suffice. With the tube connected to a receptacle the patient may be permitted to drink as freely of water as thirst demands.

H. J. VAN DER BEEK



A tensor aspect of opened stomach, showing condition of pylorus and gastrojejunostomy opening (Walton)

Walton A J Congenital Pyloric Stenosis. *A*
S r Phila 9 4 ix, 34

By S. rg Gynec & Obst

The author reports a case of a male infant suffering from congenital pyloric stenosis. A posterior gastro-enterostomy was performed through the opening being made so as to be vertical and as close to the pylorus as possible. The opening was one and one-half inches in length and the junction was made in the usual way with four sutures by the aid of clamps. The edges of the mesocolon were sutured to the junction and the abdominal wall was closed. Vomiting ceased from the time of operation. The patient steadily improved and gained two pounds and ten ounces in one month. Seven months after the operation there was a recurrence of the patient died.

At post mort m the peritoneal cavity was found to be free from adhesions and the stomach not dilated. The pylorus was markedly thickened and hard having a tumor like mass three fourths of an inch in length. The mesocolon was adherent to the line of junction and there were several membranous adhesions running from the mesocolon to the jejunum. There was a free passage through the gastro-enterostomy opening which was large enough to admit the gloved finger easily. Microscopic section showed that the thickening of the wall was due to a great hypertrophy of the circular muscular coats.

LEWIS L C R L

**Strauss, A A Two New Method of Closure of
the Pylorus for Pyloric and Duodenal Ulcer**
J Am Med 1941; 35: 1041

By ⁵ ⁵ re Cynec & Olat

Two new ideas in pyloric closure are presented and supported by experimental work dogs

The author first discusses the various procedures used at the present time in obtaining pyloric closure and points out reasons for their failure. He states that those depending on some form of ligature around the pyloric muscularis fail at all times, owing to a resultant anemic necrosis and a sloughing of the ligature inward. This is brought about mainly by the powerful peristaltic waves that aided by intra abdominal pressure sweep toward the pylorus. The substitution of fascia for the ligature has the disadvantages of absorption and the formation of dense adhesions around the pylorus.

The author exposes the pyloric region through a right ectus incision. Grasping this firmly with the thumb and forefinger an incision 7.5 inches in length proximal to the sphincter on the upper outer surface is made down to the mucosa. This is then freed from the muscularis all the way around after the muscularis is everted. A free fascial transplant 0.75 by 5 inches is introduced around the mucous tube and sutured to it at one end. Drawing this tight enough to occlude the mucous membrane the free end is then sutured overlapping. The incision in the muscularis is closed care being taken to include the fascial band in two or three sutures to prevent sliding. The suture material is No. 2 braided wax silk. Then follows the gastro-entestinal tomy as near as possible to the occluded pylorus.

Of a trend gathering operated on all made unent
ful recoveries and were n full diet within and y
One dog was killed at the end of two months and
the pylorus examined. It was found to be absolute
ly closed and th transplant unabsorbed. A hi to
logical report of the tiss e is added.

Th a thor has a second method in which around the proximal side of the pyloric sphincter without exposing the mucosa an ordinary white silk ribbon three fourths of an inch wide is sutured tight enough to obliterate the lumen.

In 2 dogs operated on by this method necropsies from five days to six months later showed tight closure of the pylorus, very little necrosis, and the ribbon covered by glazed, transparent tissue. In 6 of these dogs a rubber band was used. All the dogs died from five to eight days owing to the rubber cutting through the tissues.

rubber cutting through the tissues
The author concl s re (1) The f al
transpl t m tains a tight closure f the p lous
s not f ted by peristals ml is not a bject to
the f rmation f adhes ns () The shell g out
of the mucosa is saf as there is no d ger of haem
rhage r infect n (1) While the silk ribbon
method saf and re it leaves too large a foreign
body in the tissues
PHILLIPS M CASE

Hess, A. F. Duodenal Catheterization and Feed
in Infant. *J. Amer. Med. Assoc.* 1944; 125: 251.
By Surg. Gen. & Otol.

By Surg. Cynec. & Oph.

The instrument used for catheterization of the duodenum resembles simple Nelaton catheter to which an aspirating bulb has been attached except that it is somewhat longer and is marked at the 50

25 30 and 40 cm points By means of catheterization bile and the pancreatic and duodenal secretions can be obtained for examination Especial attention however is called to the value of this procedure in relation to pyloric obstruction and its treatment After the tube enters the stomach peristalsis carries it into the duodenum the introduction of a few ounces of water facilitates its passage by relaxing both cardiac and pyloric sphincters Aspiration of bile and neutral or alkaline secretion is evidence that the duodenum has been entered

In the author's experience whenever a No 15 French catheter can be inserted into the duodenum organic stenosis is so slight that it may be disregarded Failure to pass the catheter however, does not prove organic stenosis—for functional obstruction may be complete

Duodenal feeding is of value when persistent vomiting exists whether it is due to pyloric stenosis or spasm or not or whether it is a complication of acute infectious disease For the purpose of feeding the catheter is inserted to the 40 cm mark then held quietly Milk raw or peptonized warmed to 99 F is introduced and allowed to run in slowly so that the feeding takes 10 to 20 minutes If the flow is obstructed gentle pressure is exerted by means of the bulb Infants cannot retain the catheter throughout the day it must therefore be introduced for each feeding It may be used every 3 to 4 hours or once or twice daily to supplement rectal alimentation as in severe cases of grippe and pneumonia with vomiting Local anesthetics and drugs given to relieve muscular spasm and retching have all proved inefficient with the possible exception of papaverine recommended by Pal and Holzknecht

LISZKA TUMOLSKA

Boardman W W Duodenal Ulcers *Calif St J Med* 9 4 xu 40 By Surg Gynec & Obst

After a brief general discussion of the normal and pathologic stomach as seen by the X ray Boardman takes up simple gastric ulcer which he recognizes by various functional disturbances Here the possibilities are spasmodic filling defect in the greater curvature spasm of the greater curvature (incisura) spasmodic hour-glass increased peristalsis pressure tender point over the stomach six hour residue card spasm Indurative ulcer lesser curvature *pa s media* in addition to the above possibilities may also show lessened mobility and displacement of the duodenal cap The pylorus will probably be displaced to the left Atony and reversed peristalsis are improbable here Indurative ulcer about the pylorus will probably show irregularity of the antrum pyloric canal or cap disturbance of peristalsis near the pylorus, fixation of the pyloric portion increased peristalsis and six hour residue also there may be spasmodic manifestations and a pressure tender point

Perforating ulcer shows irregularity usually on the lesser curvature together with a shadow beyond the stomach area but closely connected with it and

unusual fixation of that part of the stomach The possibilities are similar to those of indurative ulcer with the addition of atony dilatation and reversed peristalsis

Penetrating ulcer shows opaque material outside the stomach shadow surmounted by a small gas-shadow and unusual fixation of the stomach at one point together with certain less definite possible findings similar to those of other varieties of ulcer

The author divides duodenal ulcers into simple and organic Simple ulcer has as probabilities normal stomach frequently of the hypertonic type increased peristalsis and early emptying There may possibly be a tender point over the duodenum and delayed passage through the duodenum Organic duodenal ulcer is apt to show normal stomach increased peristalsis six hour residue and cap-distortion The possibilities are either hypertonus or dilatation tender point and residue in the cap

ALBERT MILLER

Bland-Sutton J Cancer of the Duodenum and Small Intestine *Br J* 1914 653

By Surg Gynec & Obst

Primary cancer occurs more frequently in the duodenum than in the jejunum or the ileum The author divides the duodenum into the portion above the bile papilla the supra ampullary segment the portion containing the bile papilla the ampullary and the remainder the infra-ampullary segment

He states that while it is claimed by many that gastric cancer usually results from gastric ulcer he cannot be so sure of this but that undoubtedly occasionally a chronic gastric ulcer becomes cancerous Cancer of the duodenum is rare but ulcer is common The ulcer is usually situated in the first 2 cm of the duodenum and four fifths of the patients are men The only case of malignant disease found in the supra ampullary segment of the duodenum associated with a chronic duodenal ulcer was a sarcoma He resected the pylorus with the adjacent part of the stomach and the duodenum to within one half inch of the bile papilla A few days after the operation the duodenal stump leaked Mainly pancreatic fluid escaped and exoriated the abdominal wall By restricting the fats the secretion from the pancreas was so reduced that the fistula soon closed

Cancer of the ampulla Nowhere else in the body does so small a growth lead to such grave interference with digestion The three clinical signs of cancer of the ampulla are painlessness intense jaundice and great emaciation Pathologically it shows a slight tendency to infiltrate the surrounding tissues infrequently disseminates causes enormous dilatation of the main bile-ducts and gall bladder It is infrequently associated with gall stones After jaundice has set in death usually occurs within six months

Cancer of the infra-ampullary duodenum This is the common place for duodenal cancer The symptoms associated with it are like those set up

by cancer of the pylorus, but the vomited matter contains bile and pancreatic juice and is often very offensive

Cancer of the jejunum and ileum Tumors here are rare. Some authorities claim that an accessory pancreas may be the site of cancer here. Sutton thinks there is no real evidence to support this view.

Cancer at the end of the ileum Rarely is cancer found at the ileocecal valve. The author finds obstructive growths at the valve are of four kinds:

1. Cancer arising in the ileum
2. Cancer arising in the caecum
3. Malignant growths in the vermiform appendix
4. Hyperplastic tubercle of the ileum

Cancers of the ileocecal junction as Sutton has seen them have been of the circular constricting type and are easier felt than seen. It is remarkable that such inconspicuous growths give rise to widespread metastases. Cancer arising in the caecum does not obstruct the lumen of the bowel as early as cancer arising in the colon. There is nothing in the signs and symptoms approaching the definiteness characteristic of a constricting cancer of the third part of the duodenum. The chief feature connected with cancer of the gastro-intestinal tract is its extreme frequency at the pylorus and its rarity at the ileocecal valve. The age distribution of cancer of the small intestine agrees with that of the stomach and colon.

The appendix The author has had only one case of primary carcinoma in this situation. The patient was a spinster aged 3.

Hyperplastic tuberculous foci in the neighborhood of the valve An analysis of the various growths which arise at the ileocecal junction makes it evident that some of the tumors in this situation labelled cancer after operation are in some instances tuberculous. The hyperplastic form of intestinal tuberculosis is most common. The caecum and cecal end of the ileum. It differs from other varieties of tuberculous disease in that the lesion is not destructive and leads to an increase in the bulk of the part affected. The disease begins in the submucosa or subserous tissue and spreads to the other coat of the bowel. The new tissue contains lymphoid giant cells and sometimes calcareous deposits. Occasionally the thickened bowel is enveloped in a mass of fibro-fatty tissue which sometimes surrounds chronic tuberculous kidneys. The cavity of the bowel is narrowed somewhat. The track no larger than a writing quill remains and the ileocecal valve is obstructed. In rare cases the disease is limited to the valve. This condition is very liable on mere naked-eye examination to be mistaken for cancer of the ileum. Caecum and it is very probable that in some cases in which the caecum has been excised for a tumor casually regarded as cancer and the patients have remained free from recurrence the disease was hyperplastic tuberculous disease.

From the operative point of view the distinction between cancer and hyperplastic tubercle is of

important because the treatment for both conditions is the same—excision—but it is a matter of great concern in regard to prognosis. Cancer and hyperplastic tubercle left to run their course end fatally but the latter is curable by excision.

Sutton mentions melanosis of the colon. He had one case associated with a constricting annular cancer of the iliac colon. M. S. Hixson

McGlennan A. Intestinal Obstruction Due to Cancer of the Colon. *Surg. Gynec. & Obst.* 94: 423. By Surg. Gynec. & Obst.

Cancer of the colon is easily divided into two classes: (1) those associated with obstructive symptoms and (2) those without such phenomena. In the clinical course, pathological anatomy and prognosis, each variety remains fairly distinct from the other. Pathologically the tumors are either adenocarcinoma or some form of solid carcinoma, scirrhous or diffuse.

In the obstructive variety the predominant tumor cell is cylindrical—carcinoma cylindricellulare—while in the non-obstructive form the cells are cuboid in shape—carcinoma cubocellulare. In either variety there may be goblet cells containing gelatinous or mucoid material associated with cylindrical or cuboid cells—carcinoma gelatinosum.

In the 98 cases studied 61 had an obstruction of some sort in their pre-operative histories. Here as in all forms of obstruction delayed operation was unsuccessful on account of the fatal toxemia. Post-operative obstruction caused by impaction of the anastomosed bowel and leakage at the site of the anastomosis were large factors in the mortality of the fatal cases in which the tumors were removed.

The ideal operation is removal of the tumor by resection of the bowel and immediate anastomosis. In order that this may be successful the patient must be operated upon early while the obstruction is still incomplete. Later the two-stage operation—primary enterostomy and secondary resection and anastomosis—may be required. Resection with drainage of both segments of the bowel—the protrusion operation—or anastomosis with protrusion are expedients to be considered when the condition of the patient does not warrant the ideal one-stage operation nor demand the two-stage enterostomy with secondary removal.

For irremovable tumors short-circuiting is the best operation whenever practicable. Otherwise a colostomy is required and with this a form of biturator or special dressing will minimize the discomfort to the patient.

Tietze A. Diagnosis of the Variety and Location of Ileus (Art und Lokaldiagnose des Ileus). *Berlin Klin. Wochenschr.* 94: 58. By Zentralblatt für Chir. u. Gynäkol.

Reflex paralysis of the testis from kidney stone colic disease of the gall bladder or torsion of the testis of the ovary.

testicle can generally be distinguished from ileus but there is great difficulty in distinguishing disease of the pancreas from ileus. Von Walsche's teaching concerning the beginning of intestinal paresis is right so far as strangulation ileus is concerned in it peristalsis is completely stopped but in dynamic ileus there is generally only a segmental paralysis as for example in circumscribed peritonitis as a result of gangrenous appendicitis. Often in dynamic ileus in the midst of a distended intestine there is a spasmodically contracted segment this is particularly likely to occur in patients who have previously been treated with atropin. Dynamic and mechanical ileus can generally be differentiated there is more difficulty in making a differential diagnosis between peritonitis and mechanical ileus.

Tietze has tested the truthfulness of Von Walsche's hypothesis in 133 cases that he has operated upon and has found that in obstruction in general it is reliable increased peritonitis was lacking only when peritonitis had already begun. On the other hand it was not found to be entirely true in strangulation ileus among 17 cases there was active peristalsis in two. To be sure the nutrition of the intestine in these two cases had suffered very little. The conditions with reference to peristalsis varied in invagination. Except in a few cases of volvulus of the large intestine invagination hernia replaced *en bloc* etc. local meteorism could not be demonstrated.

Caution should be exercised in passing judgment on vomiting of blood. It is found in gall stone ileus as well as in strangulation high up and is not always found in thrombosis and embolism of the mesenteric vessels. Vomiting occurs earlier and more frequently in occlusion of the small intestine later and more rarely in occlusion of the large intestine. Röntgen examination is a failure in the diagnosis of ileus of the small intestine but a stenosis of the large intestine could be demonstrated in a number of cases after the intestine was filled with mercury.

In the discussion KETTERER reported 456 of his own cases of ileus 93 of dynamic ileus with a mortality of 60 per cent 222 of obturator ileus with 44 per cent mortality and 105 of strangulation ileus with 61 per cent mortality. In strangulation ileus there is much hope for the restoration of suspicious looking loop of intestine. In obstructing tumors primary one stage and two stage resections are to be condemned.

H. SCHW.

Lord J. P. Operation for Prevention of Recurrence of Intussusception. *T. B. Surg. A. S. B. n. 1914. Dec.* By Surg. Gynec. & Obst.

The author reports an operation performed to prevent recurrence of intussusception in a child of eight months who had just been relieved of the third severe attack with a five and one-half months. The symptoms were characteristic and in the first two attacks had been obtained by hydrostatic pressure. Version and manual compression of the mass during the last attack the child failed to respond promptly to the usual treatment and col-

lapse and unconsciousness rapidly intervened. The child was brought 140 miles to the hospital by the family physician who by diligent effort had succeeded in relieving the condition an hour before arrival.

The question arose as to what could be done to prevent a recurrence. As about 75 per cent of cases of intussusception are due to a mobile cæcum and ileum with the appendix acting as the exciting cause it was advised that the appendix be removed and the cæcum and ileum be firmly anchored by shortening their mesenteries. At operation a large long intensely injected appendix lying alongside of an oedematous ecchymotic ileum with a four inch mesentery gave ample proof of the correctness of the diagnosis. The appendix was removed and the mesenteries of the cæcum and ileum resected with silk sutures. Recovery was complete and there has been no return.

Lord finds no record of an operation done to prevent the recurrence of intussusception although fixation is usually done at the time of operation for the relief of intussusception in which the appendix and a long ileocecal mesentery have been the causative factor.

Isabolinaky M. Bacteriology of Appendicitis. (*Zur Bakteriologie der Appendicitis*) *Z. f. Bakt. u. Parasitenk. u. Infektionsk. Jena.* 914. 1914. 488. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author examined fifty cases of appendicitis bacteriologically to determine the kind of bacteria present. In 43 cases he found colon bacilli in 17 cases alone and in the others in association with other bacteria. Of the 17 cases in which they were found alone none were severe therefore the colon bacillus plays only a subordinate part in the causation of appendicitis.

Among 31 cases in which staphylococci albus were found they were associated in 15 cases with colon bacilli of 10 cases of staphylococcus aureus 7 were associated with colon bacilli the remainder with other bacteria. In six cases with staphylococci there were also Fränkel's diplococci lancetolatus and all of these cases showed severe anatomical changes.

The diplococcus evidently played the chief rôle in the etiology of the above cases. In the 7 cases in which streptococci were found there were also severe anatomical changes. In three cases there were bacilli pyocyaneus associated with colon bacilli or staphylococci in two there were tubercle bacilli. Both of these cases showed marked gangrenous changes and the tubercle bacilli may have played the chief part in the etiology. In five cases there were ova of ascari lumbricoides and in 3 of trichocephalus distans. The only bacteria present in these cases were colon bacilli so the ova may have caused the inflammation. In three cases foreign bodies were found—grain and iron wire.

The author concludes (1) that the etiology of appendicitis is very varied (2) that colon bacilli

alone do not cause appendicitis (3) that various pathogenic microorganisms that reach the appendix may cause it (4) that there is a relation between preceding disease of the respiratory tract and following appendicitis and (5) that worms and ova of worms may cause appendicitis **UTTER-LECKE**

Gompertz R and Scott M The Use of an Aperient Before X Ray Examination of the Intestine in Chronic Constipation *Bri M J* 9 3 15 57 By Surg Gynec & Obst

It seems that radiographers have no certain knowledge as to whether or not the presence of fecal accumulations in the last portions of the large gut influences the rate of passage of the mixture of bismuth and food in any constant manner. Therefore the authors have endeavored to investigate this point. Four adult males suffering from chronic constipation for which there appeared to be no cause in the nature of mechanical obstruction were observed—the same procedure being employed in all. Two series of photographs were taken in each case. The first series was not preceded by an aperient; in the second the bowel was emptied by a dose of castor oil the night before the bismuth meal. Observations were made immediately at 4, 6, 12, 24, 36, and 48 hours after the bismuth breakfast and at other times when necessary. The conclusions may be summarized as follows:

1. The variations between the rates of passage of the bismuth along the intestine are small whether the bowel has been emptied by a preliminary aperient or not. Where differences are noted they are not constant.

2. It is wise in most cases to give a purge before making an X ray examination on account of the greater clearness of the skiagrams obtained when the intestine is empty, and on account of the discomfort which the patient deprived of his usual aids to defecation may experience during the two or three days necessary for the X ray observations during which time the aperient must be given. The results of these experiments appear to show that the conclusions reached may be accepted without the fear that they have been materially vitiated by the omission of the aperient.

EMIL C ROBINSON

Brown, P A Roentgenological Consideration of the Relation of Individual Type to Intestinal Stasis *Boston M & S J* 19 4 421 58 By Surg Gynec & Obst

The author calls attention to the well known fact of the relationship between chronic joint affections and intestinal stasis. In analyzing stasis although the causative agent is often acquired as in adhesions, etc. he believes there is frequently a congenital predilection toward such in the shape of improperly developed alimentary organs or improper or incomplete attachments of their supports or mesenteries.

This type of congenitally deficient individual is

commonly recognized by the posture, physique and neurotic tendencies and has been designated the carnivorous type by Sir Frederick Treves in contradistinction to the better developed sluggish and peaceably disposed herbivorous type. When the carnivorous child reaches the age when he assumes the erect posture the alimentary organs prolapse and their supports become adherent in this position. Subsequent trouble arises at these fixed points which are the pyloric end of the stomach and the first portion of the duodenum, the cæcum and the flexures of the colon. Prolapse of the organs on either side of these fixed points causes the well known kinks. The resulting stasis causes infection in the duodenum which may go on to ulceration and following this adhesions to surrounding organs. Secondary to this infection is infection of the gall bladder is not uncommon with gall stones as a sequel. Stasis at the other points mentioned is followed by dilatation of the bowel, putrefaction of the retained contents, infection and ulceration of the mucosa and absorption of toxins from the fecal masses. The absorption of these toxins is in turn responsible for certain forms of joint pathology. Among these the author mentions the so called constitutional diseases: chronic rheumatism, arthritis deformans, and gout. He believes the cure for these diseases lies in the recognition of faulty intestinal absorption as an important factor in their etiology and he makes a plea to the general practitioner to be on the alert for these cases of congenital deficiency and to so direct the rearing of such children that their inherent defects shall be nullified. **G W GARR**

Benjamin A E Substitute Operations for Lane's Radical Method in the Treatment of Intestinal Stasis. *The West Surg A* Denver 9 4 Dec By Surg Gynec & Obst

Intestinal stasis has now become one of the most important studies in the field of medicine and surgery. Many diseases are attributed by investigators to infectious microorganisms within the intestinal tract due to stasis; that the topic is frequently discussed.

The symptoms of this disease are numerous, varied and complex, so that an erroneous diagnosis is frequently made and the symptoms present are attributed to other causes.

The disease is occasionally seen in children and may have a foundation in congenital defects or bands which tend to inhibit the natural peristaltic action of the bowel. On the other hand the disease may be overcome in childhood in most instances or prevented by early careful, systematic exercise and by adhering to hygienic rules.

The disease is not due to the presence of infectious microorganisms in the colon, but to the reflux of this infection into parts unaccustomed to the presence of these germs and the ready absorption of the same from these parts, even damming back as far as the pylorus, dilating the duodenum, and

interfering with the normal emptying of the stomach.

The presence of infectious micro organisms within the bowel, especially in the colon, may result in an inflammation and transmigration of the infectious micro-organisms through the walls of the intestines producing adventitious bands in addition to the congenital bands present further interfering with the bowel action resulting in further obstruction and more pronounced symptoms of stasis.

The incompetent ileocecal valve would seem to be the result of stasis rather than the cause of the same.

The diagnosis of this condition often can be made from clinical symptoms present but a definite location of the knot or primary cause should be determined by the use of bismuth and X ray screen examination or by skigram before operative procedure is undertaken.

The treatment should be begun in early childhood when there is any tendency or suspected condition which might favor the development of intestinal stasis at which time further development of the disease often can be prevented and the symptoms frequently overcome.

This treatment could be further elaborated in older patients to include exercise, massage, dietetic, medicinal treatment, and hygienic and mechanical methods as well as the wearing of suitable clothing and a properly fitting corset and possibly the elevation of the foot of the bed at night. In pronounced cases not amenable to this treatment operative procedure should be contemplated.

The radical methods advised by Lane—ileosigmoidostomy or colectomy—seem seldom justified as in the former operation there results a loaded and filled up redundant and useless colon and in the latter operation numerous pronounced adhesions which ultimately can and do lead to the recurrence of stasis and furthermore these operations especially the latter are followed by an unwarranted mortality rate.

Simple operations free from danger consist in the relief of constricting bands and the reduction of unnecessary enlarged pockets such as a dilated cecum by means of the plication operation and the replacement of the prolapsed colon and stomach by its mechanical elevation and suturing of the gastrocolic omentum to the peritoneum lateral to the median incision as well as the borders of the incision and possibly the shortening of the gastrohepatic omentum and even the elevation of the stomach by means of the Rovsing operation. These operations prevent the recurrence of knots and favor the normal flow of fecal contents all raw surfaces being covered with omental grafts or peritoneum.

This treatment followed by dietetic, mechanical and hygienic methods brings satisfactory results in the majority of cases. In other more pronounced and well selected cases the operation of cecum sigmoidostomy would seem rational and possibly

satisfactory but further investigation research and experiments should be followed up to determine whether this method will prove satisfactory to the patient as well as to the surgeon.

LIVER, PANCREAS AND SPLEEN

Cheaney A. M. Marshall Jr. E. K. and Rowntree, L. G. Studies on Liver Functions. J. Am. Med. Ass. 1914, LV, 1533.

By Surg. Gynec. & Obst.

The authors report a series of investigations to determine (1) whether functional changes can be demonstrated in anatomically diseased livers, (2) in what types these changes are most marked, and (3) the diagnostic values of these changes.

The functions of the liver in health are: (1) The glycogenic, or the conversion of monosaccharides into glycogen, its storage, and its reconversion into dextrose; (2) the nitrogenous, or conversion of certain nitrogenous bodies into urea; and (3) the production of bile.

The following tests of liver functions have been used for the glycogenic: Strauss' levulose and Bauer's galactose tests were used for the nitrogenous: the nitrogen partitions in the blood and in the urine were made for the test of production of bile: studies on the urine and feces for urobilinogen were made with doubtful success. For the fibrinogenic function the heat coagulation method of Whipple was used. To determine the lipolytic activity of the blood Soevenhart's method was employed. As a test for hepatic function the feces and urine were examined after phenoltetrachlorophthalen had been administered. Goodpasture investigated the fibrinolytic ferment.

A summary is given of the findings in 42 cases consisting of cases of liver cirrhosis, myocardial insufficiency, carcinoma of the liver, pernicious anemia, syphilitic hepatitis, and polyserositis. The results of these examinations are admirably shown in two large tables. In this series 5 cases came to autopsy and the pathological findings confirmed the functional findings in every instance.

The relative values of the tests are given below:

1. *Phthalein*. An output in the feces below 30 per cent or its appearance in the urine is infrequent in health and frequent in disease. There are three undesirable features of this test: (a) In certain instances the amount of red color is such that accurate estimation is difficult. (b) Thrombosis frequently follows at the point of injection but this has never occasioned serious discomfort. (c) There is a liability of chill and rise of temperature after injection unless great care is taken to have the salt solution made only with freshly distilled water.

2. *Fibrinogen*. Low values are frequent in cirrhosis and may be of prognostic value. This test is inapplicable in the presence of severe anemia.

3. *Lipase*. Results furnish little or no diagnostic or prognostic information although the test requires little apparatus or time.

4 *Glycogen* These tests yielded very little in formation of value. The ingestion of levulose is rather uncomfortable to the patient.

5 *Fibrinolytic* This ferment is only present in liver cirrhosis and hence is of great diagnostic value.

6 *Blood nitrogen partition* Urea nitrogen was especially low in cases of advanced cirrhosis while amino acid nitrogen was high. These examinations cannot be made in cases of severe anemia.

7 *Urinary nitrogen partition* Ammonia and ammonium were increased in most cases especially in cirrhosis. Care should be taken to exclude acidosis.

The conclusions are

1 Outspoken functional changes of the liver can be demonstrated.

2 Functional changes in cirrhosis, neoplasm of the liver and cachectic conditions are most marked.

3 There is harmony in the findings in some of the cases i.e. all show either a decrease or a normal function. Others show a striking lack of harmony.

4 The authors believe the phthalein, fibrinogen and nitrogen partition in blood and urine tests is of great value in revealing functional involvement in the liver. The demonstration of a fibrinolytic ferment is of decided diagnostic importance.

PHILLIPS M CHASE

Fise J E. Strictures of the Gall Bladder. *J. Gynec. & Obst.* 1941, 35, 45.

By Surg. Gynec. & Obst.

Strictures of the gall bladder may be either congenital or acquired. In 62 consecutive post-mortem upon babies, mostly newborn strictures were present in 11 per cent.

Congenital strictures fall into three types: (1) Annular strictures which do not markedly interfere with the size of the lumen. (2) Strictures due to the projections of folds of the inner layers into the lumen. These are not properly speaking strictures but they partially and occasionally completely obstruct the lumen. (3) The elbow deformity of fundus stricture which is the most common congenital form. In this type the fundus is bent upon the body of the gall bladder. The three inner coats are folded in the deformity while the serosa and subserosa pass over the deformity. A fold extends into the lumen similar to that described in the second variety.

Acquired strictures arise from: (1) deuter lesions beginning with the mucosa; (2) traumatic infections; (3) pathological lesions beginning with the serosa; (4) adhesions; (5) perforating wound; (6) chronic inflammatory processes; and (7) malignant tumor.

The diagnosis of strictures of the gall bladder is the result of the proper drainage and hence very important. Factors which aid in the formation of the acquired type may serve as etiologic factors in the development of malignant neoplasms. Following operation the ac-

formation may make the lumen smaller than before. If strictures of the elbow type are not recognized the gall bladder may not be completely closed and the bile may leak into the peritoneal cavity.

The report is based upon the study of 100 gall bladders removed post mortem.

Einborn M: Direct Examination of the Duodenal Contents (Also Bile) as an Aid to the Diagnosis of Gall Bladder and Pancreatic Affections. *Am. J. M. Sc.* 1914, cxlvii, 490.

By Surg. Gynec. & Obst.

The author attempts to show that by the examination and study of duodenal contents it is possible to determine whether or not the gall bladder or the pancreas are affected. He lays down the following rules:

1 The macroscopic appearance of the bile is of great diagnostic import. If it is golden yellow and clear it usually indicates a normal gall bladder. When the fresh bile looks greenish yellow and is somewhat turbid it portends a diseased state of the gall bladder which frequently contains gall stones. Golden yellow bile containing mucus is frequently observed in catarrhal jaundice. A pure golden yellow bile may however occasionally exist notwithstanding the presence of gall stones.

2 The pancreatic function may be gauged by examination of the duodenal contents containing bile and pancreatic secretions.

3 The presence of the three ferments in sufficient quantity speaks for a normal activity. If one of the ferments is constantly absent it usually indicates chronic pancreatitis. A tumor of the pancreas may, however, exist notwithstanding the presence of all three of the ferments. This apparently surprising fact finds its explanation in the circumstance that the tumor has still left enough healthy tissue in the remainder of the pancreas to continue its function in an indirect manner. Similar conditions are occasionally encountered in other organs affected by growths—the stomach, kidney, etc.

4 Duodenal contents persistently revealing the bile reaction of pancreatic secretion speak for a mechanical obstacle just above Vater's papilla—usually a stone.

The preparation of the patient consists in having the patient in the fasting condition insert a tube into the stomach or about half an hour after the ingestion of a cup of tea with a glass of beer or stout. The patient has taken the food and the bile is examined a few hours previous to the examination.

The examination of the pancreatic juice of the patient is prepared in the same way.

The duodenal contents obtained by a paracentesis through the duodenum may be occasionally a preparation of the duodenal contents at first only a little or lightly colored fluid, as this is the result of alkali reaction and so to the pancreatic ferment is usually fitting short time and

after repeated aspirations a golden yellow fluid containing bile appears. This has no diagnostic significance. If however after aspirating and waiting only pancreatic juice but no trace of bile appears it may be of some importance particularly in cases of chronic jaundice. If bile is present in the duodenal contents a complete occlusion of the common bile-duct can be excluded. The absence of bile and presence of pancreatic juice indicates that the seat of the obstruction is above the common duct. A C STOKES

Crile, G W. Anoci Association in Relation to Operations on the Gall Bladder and Stomach. *J Am Med Ass* 1914 Vol 335. By Srg Gynec & Obst

The author reviews the records of 893 operations on the biliary tract and 333 operations on the stomach. The clinical course of certain patients after gastric resections and after common duct operations is similar in many respects. The mortality rate for these operations is in the vicinity of ten per cent. This high rate is explained by the author in several ways. The condition of the patient is usually relatively poor. According to Crile's theory of anoci association the lowered resistance of the patient results in an acid condition of the blood whether this lowered resistance is produced by starvation fear infection insomnia physical exertion ether anesthesia traumatism during operation or post-operative pain.

Thus acid condition of the blood is explained by Crile as being due to a lessened activity on the part of the liver in its function of neutralizing acids formed by tissue decomposition. It follows that operations in the region of the stomach or liver are very apt to traumatize or interfere with the function of nerves supplying the liver and in this way interfere with its function.

The treatment is of little avail unless it is preventive. Prevention consists in increasing the store of energy and stopping the expenditure of energy and the consequent fabrication of acid. The first end may be accomplished by increasing the intake of food and water by the administration of sodium bicarbonate and glucose and by having the patient sleep in the open air. Energy may be conserved by limiting physical activity and so far as possible eliminating worry and anxiety before the operation, and by diminishing acid production during and after the operation by complete anoci association. JAS H SKILES

Jacobson J H. Anastomosis of the Gall Bladder to the Stomach Cholecystogastrostomy. *Am J Obst N Y* 94 1st No 5. By Surg Gynec & Obst.

Jacobson has collected from the literature the case reports of 16 instances where this operation has been employed and adds the record of a case which he himself operated upon. He describes the technique of the operation and concludes

1 The operation of cholecystogastrostomy has the same indication as that for cholecystenterostomy.

2 The presence of bile in the stomach after cholecystogastrostomy does not interfere with digestion or cause the patient any inconvenience.

3 The operation is very easy to perform there fore it offers palliation and prolongation of life to a class of cases which as a rule are considered inoperable.

4 On account of the small danger of ascending infection it should be the choice of methods when it becomes necessary to anastomose the gall bladder to the alimentary tract. N SPROAT HEAVEY

Morris D H. The Role of the Spleen in Blood Formation. *J Exp Med* 1914 379. By Srg Gynec & Obst

Experiments were performed by the author upon rabbits cats, and dogs. The blood was examined from the splenic artery splenic vein mesenteric vein and for purposes of control from a peripheral vein. Careful counts were made in each case both of the red and white corpuscles and differential counts from stained specimens. Careful autopsies were made on all the animals.

The differences found may be summed up as follows: (1) The number of both red and white corpuscles per cubic millimeter in the blood of the splenic vein is greater than that of the artery. (2) Large mononuclear leucocytes appear in great excess in the splenic vein. (3) The blood of the inferior mesenteric veins differs from that of the splenic vein in being relatively richer in small mononuclear cells and poorer in large mononuclear cells.

The conclusion reached by the author is that the spleen is a blood forming organ of prime importance in the animal metabolism. The fact that the organ can be extirpated without causing death does not mitigate against this conclusion since its work may be in part assumed by other organs such as the hemolymph nodes bone marrow and adenoid tissues in general. JAS H SKILES

Kreuter. Experimental Study of the Peripheral Blood Picture after Extirpation of the Spleen. (Experimentelle Untersuchungen über des periphere Blutbild nach Milzexstirpation.) *Deutsch Ges Hst f Chk* 94.

By Ze tralld f d ges Chur u Grenzgeb. GULECKE of Strassburg tells of the removal of the spleen in two cases of pernicious anemia. The patients seemed to improve at first but died the second week. He advises against the operation when the hemoglobin content is less than 30 per cent and the number of red cells less than a million.

SEZNICH of Belin reports extirpation of the spleen in a case of chronic myeloid leukemia preceded by roentgen treatment. He recommends the method in similar cases.

VON EISELSBERG of Vienna has performed extirpation of the spleen in 20 cases 4 for hemolytic

icterus 7 for pernicious anemia and 3 for thrombophlebitis. He reports results in some cases that were operated on years ago. He had an operative mortality of 15 per cent. He operates under local anæsthesia or sometimes with slight inhalation anæsthesia. In rats and mice extirpation of the spleen seems to favor the development of implanted cancers and he thinks the same may occur in man.

LEBACH of Paderborn lost a case of pernicious anemia after the operation. In another case the red blood-cells rose in the course of six months from one to five million but the blood picture never became normal. The changes in the vessels described by Eppinger did not appear in either of his cases. He recommends treatment with thorium X before operation.

ANCHUTZ of Kiel has removed the spleen in two cases of hemolytic icterus. Both patients improved after the operation but the resistance of the blood cells was still decreased in one case which may have been due to the influence of a super-numerary spleen. In the second case epileptiform convulsions occurred three days after the operation.

EXNER of Vienna reports a case operated on over a year ago in which DeCastillo reports the blood picture as almost normal.

HARTZ, of Munich says that in human beings only two cases of true supernumerary spleen have been reported, both occurred in cases where splenectomy had been performed and therefore are to be regarded as substitute organs. Generally it is only a question of the growth of pieces of spleen that have been scattered in rupture of the spleen.

KÜTTNER of Breslau in an autopsy after extirpation of the spleen found two true spleens which had certainly not been there before. He does not think that extirpation of the spleen in leukæmia is justified by Seefisch's case.

WULSTEIN of Bochum extirpated a spleen reaching to the iliac fossa in a very sick child two months old. Recovery from the operation was eventful and the patient is getting along very well.

JEACKEL of Altona has performed the operation five times. In the two cases of pernicious anemia he did not see any good effect. One case proved afterwards to be syphilis and tuberculous crises developed. Jeackel is very skeptical as to the indications in pernicious anemia.

FRIEDRICH of Königsberg emphasizes the good effect in hemolytic icterus. Küttner's case died in his forty-fifth year of extraordinarily severe arteriosclerosis. The aorta was hard as wood; moreover there was a multiple xanthomatosis of the extremities.

MÜLLER of Berlin regards spontaneous hemorrhage in pernicious anemia as a contraindication. He lost two cases of this kind from the operation. He has never seen such improvement in the blood picture as reported by the Vienna authors. He has not had good results either from preliminary treatment with thorium X or from after-treatment with arsenic.

KATZ STEIN

Karsner H. T., Amiral H. H. and Bock, A. V.
A Study of the Influence of Splenectomy and of Certain Organs and Organ Extracts on the Hemopoiesis of the Blood Serum. *J. Med. Research* 9:4 353. By Surg. Gynec. & Obst.

In the course of investigations of the relation of the spleen to blood changes and to jaundice, Pearce and Austin found an increase in the number of endothelial cells of the lymph nodes and noted that most splenectomized dogs that succumbed to an injection of hemolytic immune serum within 48 hours showed marked phagocytosis of red corpuscles by these cells and by the stellate cells of the liver capillaries. These observations suggested the possibility that in the absence of the spleen the function of producing endothelial cells phagocytic for erythrocytes (normally a function of the spleen and to a much less degree of the lymph nodes) becomes highly developed in the latter organs.

Accordingly the following study was carried out by the authors in order (1) to confirm Pearce and Austin's observations (2) to study the hemopoietic content of the blood of normal dogs as compared with that of splenectomized dogs (3) to study the hemopoietic content of the venous blood returning from various organs of the body (4) to study the influence of various tissue extracts on hemopoietic activity (5) to compare the effects on hemophagocytosis of extracts of the lymph nodes of normal and of splenectomized dogs.

From this series of experiments the authors draw the following conclusions:

1. Provided the spleen has been removed for a period of time less than a week and more than two days the intravenous injection of a specific hemolytic immune serum in doses large enough to produce hemoglobinuria is followed by marked phagocytosis of erythrocytes by the endothelial cells of the lymph nodes and liver. In the lymph nodes the process starts about three hours after the injection of immune serum reaches its height about 24 hours after the injection and is practically complete in 48 hours when the endothelial cells are found to contain a large quantity of pigment presumably as the result of blood destruction.

A study of hemopoiesis of the blood serum under the experimental conditions indicated in the text fails to show that the phagocytosis of erythrocytes so prominent in the lymph nodes of the splenectomized animal follows a very large intravenous dose of specific hemolytic immune serum is dependent upon local or general variations in hemopoiesis in the splenectomized animal or is influenced by organ extract of normal and of splenectomized animals. GEORGE E. BAILEY

MISCELLANEOUS

Walscheid A. J. Visceral Proctitis. *Irr. at J. S. G.* 9:4 347-355. By Surg. Gynec. & Obst.

According to the author the main etiological factor of visceral proctitis is a disturbance of nerves.

abdominal pressure This is brought about mainly in two ways (1) by a drooping undeveloped thorax resulting in a loss of tone of the diaphragm and (2) by a relaxation of the abdominal muscles resulting in pot belly. Other subsidiary causes are heredity and neglect in childhood mental and physical exertion with poor resistance overtaxing an undeveloped capacity chronic diseases such as tuberculous chlorosis rheumatic diathesis pregnancy lipomatosis abdominal adhesions and the wearing of a corset not properly fitted.

The treatment consists in fixing the dependent organs by suturing in position. Post operative treatment consists in a series of breathing and calisthenic exercises to stimulate diaphragmatic function and the use of electrical sinusoidal currents to the respiratory abdominal and erector spinae muscles. J H SKILES.

Winslow R Penetrating Wounds of the Abdomen *J Am M A* 94 151 165
By Surg Gynec & Obst

In considering penetrating wounds of the abdomen Winslow divides them into two classes (1) those occurring in civil practice and (2) those occurring in military service.

In the treatment of penetrating wounds in civil service he strongly advocates laparotomy early in all cases where the proper hospital and surgical facilities can be obtained.

The palliative treatment is advocated in military service because for obvious reasons laparotomy can not be resorted to on the field and by the time the patient is in a hospital it is too late.

Winslow and his assistants have treated 44 cases, 6 without laparotomy of which 4 died. In penetrating wounds of the abdomen in which laparotomy was done 55 per cent recovered in perforation of

hollow viscera 48.5 per cent recovered in gunshot wounds with perforation 40 per cent recovered in stab wounds with perforation 83 per cent recovered in cases in which the liver spleen and other structures were injured but without perforation of a hollow viscera 36 per cent recovered. Of those with perforation of the stomach alone 45.5 per cent recovered. Of those with perforation of the intestines alone 51.75 per cent recovered.

EUGENE CARY

Daniel T K Practical Points in Abdominal Surgery *Glasg & M J* 94 151 165
By Surg Gynec & Obst

The stomach and duodenum are discussed in this paper. In regard to deformities the pylorus is frequently stenosed. The symptoms usually appear the first few weeks and consist of persistent vomiting of everything eaten, obstinate constipation, marked peristaltic waves, tumor mass and rapid loss in weight. The treatment is almost always operative and the operation recommended by the author is a pyloroplasty. The operation consists of a longitudinal incision over the pylorus down to but not including the mucosa. The incision is then sewed up transversely thus making a larger lumen. Several cases are reported by the author.

Acute dilatation of the stomach is one of the gravest post operative complications. It manifests itself by frequent vomiting, pain in the epigastrium and visible distention of the organ. Lavage is the best means of treatment although gastroenterostomy is rarely necessary. Chronic dilatation of the stomach is not so frequent and usually results from an obstruction of the pylorus. Surgical treatment consists in pyloroplasty or gastroenterostomy. J H SKILES.

SURGERY OF THE EXTREMITIES

DISEASES OF THE BONES, JOINTS, MUSCLES TENDONS CONDITIONS COMMONLY FOUND IN THE EXTREMITIES

Stocum R B Bone Regeneration *South M J*
94 8
By Surg Gynec & Obst

The author reports a case in which the lower third of the tibia was crushed but the fibula was not damaged and the knee joint was not involved. Two inches of the bone was punched out and there was practically no periosteum left except possibly a narrow ridge along the border of the interosseous membrane. A gutter was made with fascia and allowed to fill with blood clot after the method of Hays. After the swelling had subsided the leg was put up in plaster. At the end of fifteen weeks there was complete bony union so that the patient could walk. There was still however a slight sinus to the bone but there was no shortening.

The author quotes Lewis' conclusion that bone may unite after fracture or a space fill in after resection without the aid of any periosteal or bony ridge and that transplanted fascia may be made to take up the nutritional and limiting functions of the periosteum. ANCHER O'REILLY.

Well S Experimental Study of Periosteum Regeneration (*Experimentelle Untersuchungen über Periosteumregeneration*) *Beit M Ch*
94 251 664
By Zeitschrift für Chirurgie Grenzgeb

When defects are artificially made in the periosteum no regeneration of periosteum takes place but the gap is filled in with scar tissue under which the surface of the bone shows a septic cross. Along the edges of the defect in the periosteum new bone is formed that may far exceed the normal bone in thickness. KIRSCHNER.

Schabad J: *Metabolism in Congenital Fragility of the Bones* (Der St. Michael bei geboren r Knochentrüchtigkeit) *Palma* 194 8 105
By Zentralbl f d ges Chir u Genauch

After a review of the literature on the disease the author describes a case of his own. The patient was the third child of parents who were related to each other. The oldest is normally developed and healthy the second was an abortion. The patient was born with a fracture of the humerus there was urvature of both humeri and femurs at birth. Up to seven years of age he had had 12 fractures. 4 of the femur 4 of the humerus 3 of the ribs and 1 of the lower leg. In the roentgen picture the smallness and frailty of the diaphyses of all the long bones was noticeable the cortex was very thin the narrow cavities increased in size there was marked callus formation in the humerus and femur. The patient was under normal in size and was very frail.

Studies of metabolism showed that the patient assimilated three times less calcium than normal children of the same age with the same nutrition. Further studies in metabolism were undertaken under different medications. Calcium assimilation was found to be best under phosphorized cod liver oil and hypophosphorized it was poorest under thyroid preparations and moderate under arsenic. Hypophosphorized caused diarrhea and during the treatment a new fracture appeared so the author got satisfactory results only with phosphorized cod liver oil.

Vordere

Connell F G: *Giant Celled Tumor of Bone* 7
By Surg A t Denver 914 Dec
By Surg Gynec & Obst

The multiplicity of terms used to designate giant-celled tumors of bone shows the indefiniteness of all of them. A theoretical distinction may be made between the various tumors but clinically and microscopically this distinction may not always be apparent.

That such tumors are benign or comparatively non-malignant was probably first recognized by Koenig and emphasized by Mikulicz. In this country Bloodgood has been an enthusiastic and consistent advocate of the benignancy of such new growths and his assumption has to a large extent been accepted. Yet the fact that a malignant type of such a tumor does occur brings into prominence the question, What is a giant cell sarcoma? The answer is not definite and the usual definition does not prevent differences of opinion.

One group of authorities consider the giant-cell a mere accident and that the matrix in which the giant-cell lies is responsible for the clinical features. Mallory emphasizes the fact that there are giant cells of different types, one a benign foreign body giant cell and the other a tumor giant-cell.

This lack of a common understanding relative to this tumor is shown by reference to a reported case in which eminent pathologists each made a different diagnosis of a section from this type of bone

tumor. It would seem that a diagnosis of sarcoma can not be made from the histological picture alone.

It has been claimed that metastases from giant cell tumor of bone do not contain giant-cells. A case from the literature is quoted in which metastatic nodules in the lung secondary to amputation of the arm and local recurrence showed giant-cells.

The author reviews the usual microscopic macroscopic X-ray and clinical characteristics, and cites two cases, one a foreign body giant-cell tumor of the antrum which was perfectly well eight years after an incomplete operation. The other case was a giant-cell sarcoma of the upper end of the tibia in which curettage and carbolic acid and alcohol cauterization were followed by local recurrence. The tumor spread in spite of two additional curettages and cauterization. Amputation was immediately followed by satisfactory results.

The conclusions are:

1. A diagnosis of giant-cell sarcoma is not sufficient. Such a tumor is usually benign but may be malignant.

2. The diagnosis should be made regardless of the presence or absence of giant-cells.

3. The giant cells should be differentiated into either foreign body or tumor giant-cells.

4. The prognosis is more favorable with the foreign body type.

5. Giant cells have been found in metastases in the lung.

The marked difference of opinion regarding the condition is evidently due to there being a number of entirely different pathological processes as yet undifferentiated that are being classed together.

Jones, S F: *Primary Sarcoma of the Lower End of the Femur Involving the Synovial Membranes* 4 5 1 *Phila* 914 1 440
By Surg Gynec & Obst

The author gives a very full and carefully prepared clinical and pathological report of a primary sarcoma of the knee joint. The rarity of the condition being shown by the fact that this is the eighteenth authentic case in medical literature.

Several features of the case are of unusual interest. It is the youngest case on record of a primary synovial sarcoma of the knee joint. It occurred in a seventeen year old girl. It early exhibited clinically a tuberculous involvement, though the provisional diagnosis made upon the first examination of the knee.

There was a rapid increase of fluid in the knee joint space, but later was very severe coming on after complete immobilization for three weeks. Aspiration showed the fluid to be serousanguinous. There was only slight atrophy and that only in the calf muscles, there was a slight impairment of joint motion but absence of cracking or crepitation on motion.

The radiographic findings on first examination were negative. Emphasizing the point that the X-ray in sarcoma of the bone does not always

demonstrate pathological lesions which are present and may therefore be misleading. Careful pathological examinations should be made of every joint case before radical surgical procedure is undertaken.

The discussion of the pathological report emphasizes the fact that some giant-cell sarcoma are benign and others malignant and that each case must be studied by itself to determine whether the giant-cell found is benign or malignant, one variety being of endothelial origin formed from the endothelium of blood vessels and the other a true tumor-cell indicating high malignancy.

H. W. WILCOX

Brown D. D. Rheumatoid Arthritis. *B. M. J.*
1914 u 666 By Surg. Gynec. & Obst.

Though no definite figures are given, the author states that 70 per cent of all cases of rheumatoid arthritis are due to pyorthosis. Medication he believes is well worth while. He places his reliance mainly on creosote or guaiacol, which he administers in the form of a cachet (guaiacol carbonate grains 5, guaiacol resin grains 5); if the pain is severe, he prescribes calcium acetate grains 5 with quinine sulphate grains 5; these he gives on alternate weeks with some form of iodine and in most of these cases he also gives thyroid extract grains 5 two or three times daily. Electricity and massage he considers very important adjuvants.

M. S. HENDERSON

Ashausen G. The Origin of Free Bodies in the Joint; Their Relation to Arthritis Deformans. (D. Entstehung der freien Gelenkkörper ihre Beziehung zu Arthritis Deformans). *Dent. he. Ge. d. sch. J.* 94.
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author thinks that König's theory of the origin of free bodies in the joints is proved; that is, that they originate from reactive dissecting processes in the neighborhood of a primary injury to the joint. A study of the so-called premonitory stages of joint bodies proves this. An injury to a circumscribed part of the joint leads to local and general reactions. The local phenomena are regenerative in character, the general ones whose nature is not well understood are in accordance with what is mistakenly called consecutive arthritis deformans. The local processes are first a transformation of dead cartilage into living fibrous cartilage by the migration of cells from neighboring living cartilage and second in the absorptive and dissecting action of transformed subcartilaginous marrow—subcartilaginous dissection. If subcartilaginous dissection predominates there is a disintegration of the circumscribed injured area of the joint from the mechanical effect of exfoliation.

Although the author agrees with König's view as to the formation of the bodies, he agrees with Barth that the cause of the primary injury to the joint is trauma. The mechanics of traumas of the knee-joint

is almost always a collision of the patella with the cartilage-covered surface of the femur through direct violence from the front or from the side. This is readily understood for here at the most exposed place cartilage rests upon cartilage. This explains the localization of the defects: 60 per cent on the anterior cartilage-covered surface of the femur and 30 per cent on the posterior surface of the patella. This also explains the fact that both sites are so frequently involved.

As a certain histological proof of the traumatic origin of free bodies in the joints, the author demonstrated injuries to cartilage that were surrounded on both sides by zones of marked degeneration of cartilage. This was also true in cases where there was no history of trauma. The practical deduction from this is that since the free body is frequently only a part of the injured area in the joint, simple removal of solitary bodies is not sufficient. Free opening of the joint is indicated in order to examine the site of origin of the free bodies and to remove any injured cartilage. This is the only way to exclude injurious effects that may follow from the leaving behind of necrotic areas of cartilage. Other forms of traumatic arthritis deformans are also caused by lesions of the cartilage. Therefore arthrotomy should be resorted to much more frequently than it has been heretofore, not only in the cases where the dissecting process can be demonstrated in the roentgen picture, but even when the roentgen picture is negative if there are signs of lesions of the cartilage. Arthritis deformans, of unknown etiology, is also the result of marked traumatic arthritis deformans and therefore it is amenable to operative treatment. The author reports a number of good results from these extended indications for operation.

In the discussion, BARTH of Danzig stated that he had previously taken up the question. He believes that free bodies arise from traumatic or arthritic processes or from a combination of the two.

GOETZES pointed out the significance of the crucial ligaments in the origin of such bodies. He observed foreign bodies in three cases where the cartilage was torn out by the action of the crucial ligaments. The cause of such an injury may be very slight, a slight misstep being sufficient to produce joint-mice after a time.

KATZENSTEIN

Marshall H. W. Several Practical Features Associated with the Management and Treatment of Obsolete Arthritis. *Basto. M. & S. J.*
94 ix 595 By Surg. Gynec. & Obst.

The author discusses the difficulties and successes which are encountered by the specialist in the management of some of the more obscure joint diseases. He calls attention to the constant search for new remedies for treating arthritis, and claims that a better understanding and application of correct principles in handling these cases will bring more satisfactory results than any single specific measure.

A closer coöperation between the general practitioner and the specialist will increase the success of

all concerned. Improving the possibilities of home treatment is another important line of advance.

Matters of personal hygiene and knowledge of the many physiological relations between the different organs of the body will continue to be factors of the greatest importance in the treatment of these conditions.

ROBERT B. CORLISS

Jones, R. The Treatment of Arthritic Deformities. *B. I. W. J.* 94:174. By Surg. Gynec. & Obst.

The author reviews his work on the deformities of chronic arthritis. He believes that most of the deformities are preventable if the disease is recognized early and proper treatment begun. That in view of ankylosis the joint should be allowed to become fixed in the position of greatest usefulness. He states that in children most deformities can be corrected by manipulation during the active stage of the disease, but that osteotomy is preferable for the reduction of the deformity. Older people in which there is sound fibrous ankylosis. At the hip joint he recommends a transtrochanteric osteotomy with division of the adductors. In disease of the vertebra he recommends fixation of the spinous processes by the methods of Hibbs and Albee or by his own method which consists in laying a bony transplant in a groove made in the lamina at the bases of the spinous processes.

Arthroplasty may be looked upon as a valuable and successful procedure. The character of the intervening substances, whether bone, fibrous, fat or muscle is not so important as good technique, perfect asepsis and sound judgment. Arthroplasty at the elbow or hip is more favorable. The results in the knee are not so encouraging. It is contraindicated in the young in the presence of disease in cases where prolonged ankylosis and infiltration have destroyed the muscles or where scar tissue around a joint endangers the vitality of the flaps.

Finally in the painful progress of arthritis such as osteoarthritis of the hip he recommends the prevention of friction of the tender joint surfaces, and describes his operation of the hip in which he chisels off the great trochanter preserving its muscular attachments, removes the neck of the femur and nails the trochanter over the acetabulum.

D. F. FRYE, P. WILLARD

Jones, R. Internal Derangements of the Knee. *S. & G. & Obs.* 94:47. By Surg. Gynec. & Obst.

The author relates his personal experience with mechanical derangement of the knee joint. Displacement of the semilunar cartilage is considered in detail also the mechanism of such displacement. Its diagnosis and treatment. Eighty per cent of the cases have shown injury to the internal cartilage and the cartilage is usually displaced while the leg is moderately flexed and the knee forcibly abducted. Some few cases however have occurred during extension. In nearly all instances the cartilage is displaced inward and many show a variety of lesions.

The most common symptom of displaced meniscus is a sudden inability to extend the leg, the condition being present immediately after the injury. A few cases show such locking only after a considerable length of time after the injury. Following the initial trauma there is usually a synovitis. This synovitis disappears early and then the patient is up and about until the knee locks again and the syndrome is repeated. It is usually at this stage that the patient is seen. In the differential diagnosis hyperplastic fringes, lipomata and semidetached bodies are considered. Manipulative reduction should be attempted in recent injuries. The leg is acutely flexed, the surgeon then rotates the tibia inward and at a given signal the patient is forcibly aided to extend the leg. If this fails and in the other class of cases where the cartilage has been out for some time operation is indicated.

Mention is made of the details of the author's technique for arthroscopy, namely the flexed position of the leg, the incision being made through bichloride gauze and all sutures healed with astrum. Such pedantic asepsis is insisted on. The remarks concerning displaced cartilage are based on considerably more than 1,000 operations of this condition.

Cases are often seen in which loose bodies prevent the normal knee movement. Sometimes they constitute an entity at other times they are a part of osteoarthritis. In either case the treatment is removal. In such removal it is necessary to split the patella longitudinally to gain free access to the body.

Extra-articular osteomata also cause locking of the joint. The modus operandi of such locking is by direct interference with the controlling muscles and tendons.

The diagnosis of ruptured cruciate is discussed. The operative treatment is considered to be discouraging if rupture being given the absolute rest for several weeks.

Fractures of the tibial spines are often seen. In this injury on attempting full extension of the limb there is a feeling of definite bony block and this should be differentiated from the obstruction experienced in displaced cartilage. Immediate operation is indicated in these cases, the median longitudinal incision being employed and the spines removed.

Oliver, P. Myositis Ossificans Following a Single Trauma. *J. Am. M. A.* 94:1504. By Surg. Gynec. & Obst.

This malady follows severe trauma, usually such as a dislocation and found most commonly in middle-aged men. The favorite site at the elbow joint after trauma or dislocation and the thigh muscles, although the condition may be found in other muscles.

The character of the process is the formation of spongy bone in the muscle. Microscopically in the early stage it shows degenerated muscle blood

pigment red cells young connective tissue osteoid tissue and later on typical cancellous bone After trauma a lump appears at the site of the injury and continues to grow for several weeks Heterotopic bone as far as is now known is caused by two agencies only skeletal osteoblasts and young granulations in contact with calcified areas It is believed by many that osteoblasts come from the periosteum and grow in the pulpified tissue or bits of periosteum and are drawn or pulled into the muscle The condition may cause trouble or not depending on the location of the injured area The process is not a myositis but is either a metaplasia of connective tissue or a periosteal growth Pathological findings seem to indicate that it is the same as the so called parosteal or exuberant callus

Many believe the outcome will be favorable if the condition is left alone Some advise immobilization after severe injury to the favored position of occurrence All are agreed that operation should not take place until several months after the injury Some believe operation does more harm than good while others report good results from the removal of the calcified area C C CHARTERTON

Murphy J B Ischemic Myositis Infiltration Myositis Contracture Muscular of Tendon Fixation in Forearm Internal Lateral and Combined Compression on Myositis with Subsequent Musculotendinous Shortening J Am U A 9 4 Jan 49 By Surg Gynec & Obst

The author believes that the condition clinically known as Volkmann's contracture is an ischemic myositis resulting from too tight splint (external compression) or hemorrhage or effusion into the muscles (internal compression) or both It is not due to arterial or venous obstruction for the former leads to dry gangrene and neither of these is present in these cases The damage is all done in the first forty-eight hours after application of the bandage The muscular contraction and flexion deformity however do not become apparent for many weeks There is no nerve involvement unless the nerve is especially compressed Those cases in which there is paralysis and loss of a muscle as in the toe drop during a Black's extension treatment are due to degeneration of the axillary processes of the motor nerves

The most prominent symptom in the early stage of the condition is intense pain There is swelling of the hand stiffening and finally complete loss of motion in the fingers The contraction deformity is the result of scar formation following the destructive inflammation and atrophy of the muscles

To avoid the occurrence of myositis a compression splint or tight constricting cast should never be immediately applied to a fractured limb The reduction and replacement of fragment can be accomplished six to ten days later as well as on the day of the fracture An elbow should never be acutely flexed immediately after the accident Bandages and splints should never be applied for

the purpose of reducing a fracture It may be necessary to split the fascia on the antero-ulnar side of the forearm to relieve a persistent cyanosis

For correcting the deformity the author employs the method of tendon lengthening by open operation Each tendon is cut by the half through incision on opposite sides connected by a longitudinal incision and sutured together again with silk To obtain complete extension it is also sometimes necessary to divide the joint capsule at the wrist It is essential to separate the tendons from each other by flaps of fascia and fat to prevent general adhesions The hand is then put up in a splint with hyperextension at the wrist and finger joints After ten days voluntary flexion and extension is encouraged, but should not be forced to a degree causing pain In all the author's cases five of which are reported there was no case in which practically full power of flexion and extension was not obtained

W 4 CLARK

Fagge C H Injuries of the Semilunar Cartilages G y H J Ga 914 xviii 403 By Surg Gynec & Obst

The author concludes that lesions of the knee joint are infrequent in America since the American literature on the subject is scanty German literature is also very limited At the Royal Victoria infirmary at Newcastle on Tyne 156 cases of operation for semilunar cartilage injuries are reported in one year Martin of Newcastle reports 449 cases 62 per cent of which were miners It is generally agreed that injury of these cartilages is usually caused by the indirect violence of forcible rotation when the knee is semiflexed and that the internal cartilage is the one usually affected With the rotation there is almost always a beginning extension with tightening of the ligaments to which the cartilage is attached resulting in a tearing of the latter It is easily demonstrated that in flexion there is a shrinking of the joint toward the center and that with extension the cartilages tend to be expressed out of the joint cavity Diagnosis is very difficult in the early stages Differentiation must be made between chronic synovitis with thickening of the ligamentum mucosum meniscoid bodies which are organized particles of synovial exudate and isolated synovial fringes Most cases are under thirty years of age A snapping or clicking knee is usually due to disturbance in the movement of the external cartilage It is not advisable to operate at the first attack The knee should be firmly bandaged and maintained as nearly extended as is comfortable without a splint A knee locked in flexion may be released by first fully flexing then extending with inward rotation Incision for exploration should be large enough for the purpose and is best done with the knee in flexion The author uses a vertical incision Although the idea that the knee joint is especially susceptible to infection is dying out it is important never to ignore the risk of sepsis Weakness or stiffness is

not likely to follow the operation but in elderly patients a tendency to degenerative arthritis may be accentuated

W A CLARK

Speed K. Injuries of the Great Toe Sesamoids
A n s g Phila 941 478

By Surg Gynec & Obst

In a short but interesting article well illustrated the author discusses the anatomy causes and treatment of these injuries dwelling chiefly on fractures which he says are due to direct violence (1) squeezing of the great toe between heavy masses (2) falls from a height the body striking with the whole weight on the foot (3) sudden increase of weight bearing force when carrying heavy weights and missing the footing with the force expended through the great toe-joint

The symptoms simulate metatarsalgia or rheumatism. Palpation gives little information but a good X ray shows separation of the fragments of the sesamoid long after the foot has recovered from the more severe injury that usually masks the condition—the symptoms usually not appearing until weight bearing is resumed

Treatment by pads plates etc has not been successful, the symptoms continuing until an operation was performed to remove the fragments. This operation is best accomplished through a lateral incision just above the line of tough plantar skin on the inside of the foot. Both bones should be removed for if this is not done the one remaining will protrude so far as to give malar symptoms later

C E WELLS

FRACTURES AND DISLOCATIONS

Henderson M S. End Results in Fractures of the
N. 1st Street Railway S. & Ass. Chicago 94 Dec

By Surg Gynec & Obst

Different men hold varying views as to end results in treating fractures according to the material which comes to their hands. The surgeon treating recent fractures in men engaged in the active pursuits has an optimistic view of the end result. The orthopedic surgeon on the other hand is rather pessimistic as the end results he sees are all bad. Non-union or delayed union is usually brought about by inadequate and insufficient fixation or by allowing too short a time. Complete bony union is slow to occur. Experimental work shows that bony union occurs in 83 to 155 and 175 days

Fractures of the neck of the femur are troublesome in the old cases since there is usually marked absorption of the neck with consequent shortening. With early diagnosis and adequate fixation much better results are obtained in these cases. Late operations are not satisfactory and the author describes one in which bone transplantation was done. Fractures of the ankle or Pott's fracture frequently give poor end results due not to poor primary care but to inadequate after-care. These patients should be

provided with a raised inner sole to the shoe outside iron and inside T-strap to throw the weight on the outer side of the foot before weight bearing is permitted. Fractures in the region of the elbow frequently show limitation of motion due to excessive callus formation. Lack of flexion is most inconvenient and can best be prevented by treatment of these cases in acute flexion and supination. Passive motion vigorously applied is too often the cause of excessive callus formation and tender joints causing restriction of motion. Quite often fractures of the shaft of the femur operated on by the Lane plate subsequently bow outward because of too early weight bearing. It is not out of the ordinary to keep these patients off the fractured leg six months, and better results are insured

In reviewing these cases of bad end results, the striking point is not that the primary care was poor or inefficient but that the after care was not controlled or carried out with the fixed purpose of treating each case as a law unto itself

Parker R. The Use of Small Bone Fragments in Ununited Fracture
Proc Roy Soc Med 94
11 Surg Sect 75 By Surg Gynec & Obst

The author proposes a method for the stimulation of bone growth in cases of non union. The method is application of the principles of bone growth as brought forward by Sir William MacEwen consisting of the chipping off of the ends of the bones and inserting between them all the unossified material after its removal. The pieces are merely crumbs of bone and remain in contact with each other and with the main fragments. This filling together with the hemorrhagic tissue is supposed to ossify and produce firm union

W A CLARK

Watson J H and Snowball T. The Improvement of Apparatus in the Treatment of Certain Fractures in Modern Warfare.
Lancet Lond.
94 1871 849 By Surg Gynec & Obst

In a second article the authors take up the treatment of fractures of the upper arm especially those received in recent wars. They consider that for the compound comminuted fractures received from projectiles in battle the best result looking to the prevention of deformity and shortening can be obtained by the use of a modified Borchgrevink splint, the construction and application of which they describe

It consists of a crutch shaped soft wood splint, properly padded and placed in the axilla and along the inner side of the arm. Adhesive plaster straps applied to the inner and outer aspects of the arm in connection with elastic rubber tubing arrangement exert a traction upon the lower fragment. Its advantages as a splint are that it is comfortable and easily displaced permits any degree of traction likely to be required and the amount of pull is easily regulated. It has been tried in many severe fractures and has been found to be efficient.

H. W. WATSON

Hartshorn W E. A Suggestion Regarding the Treatment of Fractures of the Elbow Joint *Med Rec* 1914 lxxxvi 752
By Surg Gynec & Obst

The author prefers the acutely flexed position rather than the semiflexed position in the treatment of fractures about the elbow joint especially fractures of the external and internal condyles

He describes and illustrates an ingenious method of securing the acutely flexed position by the application of narrow adhesive strips around the arm and forearm beginning at the elbow the strips overlap to the wrist and shoulder the arm being thus held in acute flexion Other wider strips passed around the chest and over the opposite shoulder serve as supports The skin of the arm and forearm is protected by a gauze bandage

ARTHUR J DAVINSON

Moucht A Late Paralysis of the Ulnar Nerve Following Fractures of the Internal Condyle of the Humerus (Paralysis tardus d nerf ulnaris) *Des fractures du condyle interne de l'humérus* *J d Chir* 1914 1 437
By Zentralbl f d ges Chir Grenzgeb

In fractures of the external condyle of the humerus late paralysis of the ulnar nerve sometimes occur as late as sixteen to twenty years afterward More over there is always a marked valgus of the ulna and the external condyle is frequently very much displaced and can be felt in its abnormal position The roentgen picture shows a fracture of the external condyle with more or less marked dislocation of the fragments

The result of the fracture are changes in the static conditions of the joint The median half of the olecranon fossa is more taken up by the olecranon and this is followed by hypertrophy of the internal condyle and flattening out of the groove for the nerve The result of this is valgus of the ulna that is sometimes very pronounced As a result of the fracture which is sometimes continued into the joint periarthritis often arises A further result is the fracture of the condyle is more or less displaced out of the head of the radius The ulnar is in its proper position but shows signs of inflammation and degeneration of individual articular surfaces The groove for the nerve is frequently decreased in size or even almost completely obliterated The nerve is then be moved lightly in a transverse direction He says that changes in the joint the nerve is placed under tension rather than the normal border of the olecranon per all when the arm is extended Operation always indicated in such cases

Operation that cannot be recommended is the simple neurolysis creation of a new canal for the nerve and displacement of the ulnar nerve to the flexor side of the arm The author recommends a supracondylar wedge shaped osteotomy on the inner side of the humerus after removal of the external condyle The ulnar nerve is not injured in this operation it is not necessary even to see it He reports three cases

treated in this way After the fragments are placed in the right position—the bone can be broken manually after the wedge shaped excision—a Velpeau's bandage is applied and left on for two weeks, when it is renewed In the author's cases the pain in the nerve and the reddening of the little finger disappeared in two days The results were very good GRUBE

Saar G von Treatment of Supracondylar Fracture of the Humerus by Plastic Operation on the Joint (Zur Behandlung der Fracture humeri supracondylarica mittelst G1 kautoplastik) *Deutsche Zeitsch f Chir* 1914 cxxviii 30
By Zentralbl f d ges Chir u Grenzgeb

In supracondylar fracture of the humerus, which is so frequently observed in children an ideal result is often prevented by the complex nature of the fracture the interposition of muscle between the fragments or the failure of the short-sighted parents to take the child to a physician for treatment In such cases the author advises operation The humerus particularly the distal fragment is dissected the superfluous callus removed with the chisel and the interposed soft parts with knife and forceps After reposition of the fragments they are wedged to each other in most cases the peripheral fragment is pointed and pushed into a groove in the central fragment In some cases the opposite procedure may be used Generally flexion and extension may be secured immediately after the operation by passive movements The distal fragment on which the periosteum should be preserved as far as possible generally takes an ideal completely viable

Von Saar describes six cases operated upon by this method and reports brilliant results although recovery was complicated by a rise of temperature in some of the cases After treatment consists of the usual measures employed in ankylosis of joints The method is to be recommended in all cases of old badly healed fractures with marked interference with motion and in irreplaceable cases The work contains detailed case histories and illustrative roentgen pictures VORSCHÜTZ

Fabian F Treatment of Fracture of the External Condyle of the Humerus by Extirpation of the Free Fragment (Zur Behandlung der Fractura condylaris externae mittelst der Exstirpation des freien Fragments) *Deutsche Zeitsch f Chir* 1914 x 400

By Zentralbl f d ges Chir u Grenzgeb

Among 24 cases of fracture of the external condyle of the humerus 9 were operated on 4 times by placement and nailing of the fragments 4 times by total and once by partial excision of the external condyle The indication for operation was marked functional disturbance Of the 4 cases treated by total excision only one showed a satisfactory functional and cosmetic result after one to one and three-fourths years All the others showed more or less

valgus limitation of motion and snapping crackling and grating on motion

Fabian draws the conclusion that excision is primarily useful in old cases with functional disturbance but that it may also be used in recent cases in the so called rotation fractures when non operative replacement is not successful. *PLER*

Anglin W G Subtrochanteric Fracture of the Femur. *C and M Ass J* 9 4 1 804
By Surg Gynec & Obst

The author proposes what he believes to be the best non operative method of treatment for the subtrochanteric fracture of the femur

Most fractures of the upper third of the femur are due to great violence and they present the displacement flexion abduction and anterior rotation of the upper fragment the lower fragment dropped backward and pulled up with the resulting shortening of limb vers on of foot and deformity of thigh He believes the Hodgen splint is best suited to fracture of this type

The apparatus and mode of application is described in great detail The apparatus consists briefly of two parallel bars of metal connected at both end curved at the upper end to fit the body at Poupert's ligament The parallel bars are slightly bent at the knee and the lower end is about six inches from the foot Canvas strips are used as a hammock to rest the limb on The entire apparatus is suspended

The author uses coaptation splints and Buck's extension to help retain good position He believes that the results are better the patient is handled with less care and is more comfortable than with any other type of apparatus

C C CHARTERTON

Whitman R A Critical Analysis of the Treatment of Fracture of the Neck of the Femur. *A S G Phila* 9 4 1 485

By Surg Gynec & Obst

After twenty five years of study the author finds that these fractures are usually complete so that while the immediate result is usually most satisfactory coxa vara frequently develops with resulting disability The abduction method which he advocates utilizes natural leverage ligamentous tension and muscular relaxation to correct the deformity and appose the fragments It is in accord with the established principles and practice which insist that impaction shall not be disturbed and that repair will not occur the treatment in all cases having been influenced by that of the old and feeble cases and consisting essentially of traction in the line of the body which is effective at all is only so in cases having constant perversion The results in these cases were so poor that the British Committee classed only 22 per cent as good

It is evident that repair can take place only when the fragments are in contact and to secure this the primary object of the abduction method of

treatment The method is so poorly understood that it is given in some detail

The patient under anesthesia is placed on a pelvic support a pelvic bar for counter pressure being usually employed and the extended limb held by assistants The normal limb is abducted to the no mal limit The injured limb is first rotated and flexed to disengage the soft parts then completely extended and put under traction by an assistant to overcome shortening while at the same time rotation is corrected and the limb brought into a position of full abduction corresponding to that of the other side Care is taken that the pelvis is level and the limbs in exact correspondence in every particular and in this position a plaster spica is applied from axilla to toes By these manipulations shortening is overcome and the fragments brought and held in apposition by the tense capsular aid by muscular tension End of final use is encouraged and the prognosis is good not being adversely affected by age as shown by Whitman's statistics which show that of 20 patients between 24 and 46 years of age 6 had good results of 30 between 45 and 60 years 8 had good results and of 30 over 60 years 5 had good result The article is well illustrated by photographs and X ray plates
C E WELLS

Pettit J A The Extremity Treatment of Fractures of the Neck of the Femur Its Occurrence in Elderly Subjects. *Northwest Med* 9 4 1 303
By Surg Gynec & Obst

One third of all the fractures of the aged are of this type Changes in the bone senile osteoporosis, and lesser resistance make the chances of recovery less likely Many cases are only half treated and in many instances results are not expected Pettit proposes and describes in detail a type of treatment he has found to be satisfactory It is a modification of the Maxwell Rush method of extension and counter-extension

A good reduction of paramount importance The apparatus consists of a Hodgen splint giving linear extension and a stirrup and weight at the upper end of the femur giving lateral extension The result of these two forces a pull in line with the neck of the femur The advantages of this method are that the patient has more freedom can sit bed d hang from side to side and is much more comfortable than with the common dressings

Photographs are shown of four cases 63 of 84 years of age in which functional results were obtained
C C CHARTERTON

Barnes W S Immediate Bone Transplantation in Compound Commuted Fracture of the Tibia and Fibula. *Surg Gynec & Obst* 9 4 1 54
By Surg Gynec & Obst

Barnes reports a case of compound commuted fracture of the tibia and fibula in a woman 39 years of age in which he performed bone trans

plantation using one of the tibia fragments for the transplant.

The operation was done three days after the injury. The skin was fully crushed and the tibia severely comminuted for a length of six inches. All loose fragments were picked out and one of these five or six half-inch fragments at three-eighths of an inch thick was placed in the defect in the tibia. It was transplanted in the gap in the tibia the end being embedded in the medullary canal of the tibia fragment above and below a ligature.

Final security is caught by fixation. The transplant was free of peritonium and its asepsis not disturbed. The operation was undertaken to save the leg and the result justified the risk taken. Six weeks after the operation there was a well

arm could easily be re-located. Suture of the capsule from the anterior side could only be successful if it was performed as near the pull line as possible and if all traces of a large extent of the capsular surface was removed. After a mile stretching of the capsule no dislocation occurred at most a subluxation and separation of the muscles caused only a slight sinking of the arm. There was never rupture of the muscle insertions or cartilaginous sections of the glenoid cavity in the cavity.

Clinically these injuries are very rare in hospital dislocation of the shoulder is usually caused primarily by injuries of the tubercles are also rare. The injuries to the muscles and ligaments of the joint are in the majority of cases a secondary result of

of three years also a large amount of animal experimentation both macroscopic and microscopic, devoted to the study of the bone graft when used in ways similar to the technique employed in human cases.

These include 178 cases of Pott's disease 16 wedge graft corrections in cases of congenital club foot 17 iliac grafts for ununited fractures of the long bones and 14 paralytic foot deformities the remaining cases include bone grafting for fixation of tubercular ankle repair of osteomyelitic cavities transplanting astragalus for the head and neck of the femur the correction of paralytic drop wrist deformity of the tibia following fracture under development of the jaw fixation of tubercular knee reinforcing the bony defect and muscular weakness in spinal cord connection with arthroplasty for paralytic dislocation of the hip congenital dislocation of the hip paralytic scoliosis restoring depressed nasal bridge fixation of the sacro-iliac joint ununited fracture of the spine ununited fracture of the femoral neck congenital absence of tibia replacing bone deficiency following removal of osteosarcoma mobilizing ankylosed hip and carpus by use of osteocartilaginous grafts

For each class of cases the thoracic operative technique and post-operative treatment in detail. He also gives case histories, shows numerous photographs and skiagrams taken before and after treatment and drawings illustrating his technique.

It is the author's experience borne out by other workers that the bone graft is a trustworthy surgical agent when taken with its enveloping membranes and contacted with bone. Its uses have been practically infinite. The bone graft apparently acts always as a stimulus to osteogenesis of the bone into which it is grafted or contacted. When well contacted the bone graft becomes immediately adherent to the recipient bone by newly formed tissue which becomes solid bone within four weeks time. From his experience with bone graft the author recommends its use wherever possible instead of metal internal appliances. R O Rxxxx

Oechner J F Autoplasic Bone-Grafting
S & Gynec & Obst 94 53

The two cases cited by the author show the rapidity of bone regeneration during the first year of critical X-ray and clinical examinations demonstrating that the rapid bone development was in all probability due to the use of a sufficiently large bone graft with its periosteum attached and demonstrating that all the histologic factors in bone regeneration were responsible for the rapid growth.

In the second case even though a pyuration occurred in the graft and several dead bacilli were removed the regeneration of bone went on uninterrupted so that while asepsis is strictly urged it does not follow that infection means the death of the graft particularly where the infection is

localized and limited. The radiographs show a steady growth of bone so the prediction can be made that the bone will be restored entirely to the normal. Measurements of cases also show that the bone which was grafted has grown in length so that where the epiphyses remain intact this may always be expected.

The measurements in the second case are as follows

I from anterior superior iliac spine to inner malleolus R fore operation affected leg 25 inches sound leg 26 inches After operation affected leg 27 1/2 inches sound leg 28 inches

1. The autogenous transplantation of bone is an established surgical procedure

Whether dependent for growth on periosteum or upon the graft as a scaffold for the development of blood vessels transplants for the present should be provided with both particularly plenty of periosteum

3. Non absorbable material had better be avoided wherever possible, do, catling and absorbable suture material should be used in their stead.

4 It is highly probable that organized bone tissue will in the future take the place of foreign material now used in the Lane plates for fractures.

5 For the present the thorough applicability of heterogenous grafts has not been established

6 Bone grafting should never be done in the presence of an active infection.

7. Most rigid asepsis should be exercised

8 Bone grafts probably owe their virility and lumat success to the rapidity of blood vessel development plus the presence of osteoblasts where they may be

9 Growth in the length of bone may confidently be predicted in the case of children who the emphysema rem : intact

Hesse E. Restoration of the Crucial Ligament of the Knee-Joint by Free Transplantation of Fascia (Fast der Kreuzbänder des Kniegelenks durch freie Fascientransplantation) Deutsche Gesellschaft f. Ch. 94. Garmisch

The author post case in the Obu how Hos
pital St Petersburg which the crucial ligaments
of the knee joint which had been destroyed by
trauma were successfully replaced by the free trans-
plantation of fasciae

The patient, a 40-yr old man fell from the third story with the result that there was marked lateral mobility of the knee joint, the crucial ligaments were ruptured, the tibia was displaced anteriorly and the ligament in proprium of the patella was ruptured. Grekow operated two weeks after the accident at the patient's under intravenous general anesthesia. The tibia was reduced and only short fragments of the crucial ligaments were left on the surface of the tibia. After trips taken from the fascia lata had been fastened to the femur by boring

holes through it they were sutured crosswise with the remnants of the crucial ligaments left on the tibia. Since suture of the ligamentum proprium of the patella was not successful the gap here was also bridged over with fascia lata. Healing was by first intention the functional results were good and there was no lateral movement.

Fauntleroy A M: Amputations. *I Med R c* 1914
LXXV 70 By Surg Gynec & Obst

The surgical attitude toward the removal of limbs has undergone quite a change in recent years. Aseptic surgery, recent advances in blood vessel surgery (suture anastomosis and transplantation), Bier's hyperæmic treatment, arthroplasties, transplantation of bone to fill defects and roentgen therapy have enabled the surgeon to avoid amputations which formerly would have been necessary.

When once the indication for amputation has been established there are two main factors to be kept in mind: (1) the safeguarding of the patient's life and (2) the securing of a useful, painless stump. The patient's general resistance is of great importance in the first of these. Where shock is present resistance should be strengthened by energetic treatment with stimulants such as brandy, ether, atropin, morphine, infusion of salt solution or transfusion of blood. When the operation can be postponed the time should be devoted to building up the patient and making a careful examination of the various organs, administering any corrective treatment that may be necessary. The application of Crile's anoxi-association principle should always be resorted to.

Securing a painless, movable and useful stump is the greatest importance and primary union and careful planning of the flaps are essential in bringing about the desired result. Proper arrest of hemorrhage, careful handling of the soft part, obliteration of the so-called dead spaces and the introduction of drainage—to be removed on the second day—are important factors; securing primary union. The flaps should be so planned as to conserve the length, strength and supporting character of the member and to allow for subsequent muscular contraction.

To avoid a painful stump which the author considers is due to the fixation of the nerve-ends in the scar, he advises pulling out the divided nerves for a distance of three or four inches, dividing them and allowing them to retract. To limit osseous formation at the end of the stump the removal of the terminal bone marrow and a periosteal cuff as recommended by Bunge or one of the osteoplastic or covering flap methods may be used. Next to painful stump disturbances of function are of importance. The joint on which the stump hinges may become partly or wholly ankylosed. To avoid this the splint should be removed as soon as primary union has occurred and the joint freely and passively exercised. Disturbances with the lever action of the stump may be brought about by irregularity of

muscular action. This may be prevented by carefully anchoring the severed tendons to the periosteum or by adjusting the opposing muscles over the end of the bone.

In choosing the site of election the author follows the accepted teaching. He believes that in amputation of the forearm and wrist the plastic operation of Vanghetti is worthy of a trial.

FRANK D. DICKSON.

Lyle H H M: Aperiosteal Amputation. *J Am M Ass* 914 LXII, 1149 By Surg Gynec & Obst

The aperiosteal method of amputation consists in denuding the stump of the bone of its periosteum for one centimeter and curcetting out one centimeter of the medullary canal. The advantages of this method over the periosteal, osteoplastic and tendinoplastic methods are that (1) it furnishes a good weight bearing stump, (2) there are no spicules of bone from dislodged periosteum causing pain and (3) it is the simplest method.

The osteoplastic method is serviceable only in selected cases and the technique is difficult. In case of amputation following trauma sepsis is most likely to follow this method in which a bone flap is made to cover the end of the stump.

The periosteal method consists in covering the stump with periosteum and the results are bad although this method is employed by the majority of surgeons.

In the tendinoplastic method a broad sheet of tendon is used to cover the sawed surface but such a tendon is not available for every amputation.

The bad result of amputations in general is illustrated by the finding of only two weight bearing stumps in 96 cases investigated. Out of thirteen cases performed by the oldest New York surgeons only one was found to be a good end bearing stump. According to Bier the cause of pain in amputation stumps is the bony spicules growing from periosteum. In the aperiosteal method these outgrowths are precluded. Another cause of pain is said to be atrophy of the stump. This is avoided by massage and early weight bearing after the aperiosteal amputation. The method originated with Bunge in 1900 and had a practical test in the Russian Japanese war. Ranzl, from von Eiselsberg's clinic reported 31 weight bearing stumps out of 40 cases.

W. A. CLARK

ORTHOPEDICS IN GENERAL

Webb-Johnson C: The Soldier's Feet and Foot Gear. *Brit M J* 94 II 748

By Surg Gynec & Obst

Since soldiers' feet must be capable of standing the stress of long marches without becoming incapacitated Captain Webb-Johnson considers that all recruits suffering from severe types of flat foot, hallux valgus, hammer toe, ingrowing toe, nails, corns, and bunions should be rejected. Mild cases of flat foot may be disregarded. Any man who

cannot raise himself on his toes and restore the arch by action of the calf muscles should be rejected. He does not believe in mechanical supports for the arch but considers exercise in the miller exercise of use. Mild cases of hallux valgus may be improved by wearing a shoe with wide toes and straight last and by keeping the great toe in a straight line by mechanical means. Hammertoe can be treated only by operative methods. It takes up in detail care of the feet during the campaign and lays special stress on constant medical inspection of the feet properly fitted and well ventilated boots and the need of carefully fitted socks which should be washed after 10 g matches and 15 different pairs worn on alternate days. Dr. F. R. P. WILLIAMS

McCurdy, A. T. Some Chronic Deformities of the Hand and Forearm. *Philadelp. J. Surg.* 1911. By S. R. Gynec. & Obst.

McCurdy considers three types of injury: (1) fascial injuries and contracture; (2) nerve injuries and deformities resulting therefrom; and (3) tendon injuries.

Dupuytren's contraction is cited as a typical fascial injury. It is due to contraction of the palmar fascia resulting in flexion in passing and grip. It is due to often repeated trauma to the hand and rheumatic and specific conditions as opposed to favor it. The treatment consists in removal of the palmar fascia and retention of the hand in the corrected position for several months to prevent recurrence.

Contractions of the forearm and wrist may result from injury to the brachial plexus as a complication of fracture of the clavicle or dislocation of the humerus or other nerve injury associated with fracture or dislocation of the arm and forearm or injury to the soft parts.

McCurdy considers Volkmann's ischemic paralysis the most common form of this type of injury. The resulting claw hand is a marked degree. Stretching of the muscles as recommended by Volkmann or tendon lengthening or transplantation may be resorted to for treatment.

Tendon injuries result in inability to move the fingers or one of the digits, middle finger or drop

finger where the finger—usually the distal joint—is turned at right angles from its axis and disappears where the finger is held flexed and cannot be extended or if it is tipped back to flexion. Correction of the cause by uniting severed tendon forble or gradual correction and retention in correcting agents are the method of treatment recommended. F. W. D. D. C. W. W.

Hibbs, R. A. Muscle-Bound Feet. *A. F. M. J.* 1911. By S. R. Gynec. & Obst.

A muscle bound foot is one in which dorsal flexion is limited to ninety degrees or more by a short calf muscle. A normal foot should be capable of eighty or eighty degrees of dorsal flexion. This limited flexion causes a short stride and a shortened rec period for the calf muscles. Because of the heel being held elevated for so long a period there is abnormal strain on the foot due to the weight being borne on the ball of the foot and the metatarsals. The improper muscle action gives rise to an impaired circulation so that the feet are cold and may have slight varicosities. The patient suffers from fatigue as a result of the nervous strain as well as the local strain. The effect of this strain especially upon growing boys and girls is not fully appreciated. Permanent damage to the organism may result. The strain should be guarded against by encouraging exercise of the leg muscles and the wearing of shoes without heels.

Two things are essential in the treatment—first, obstruction to dorsal flexion must be removed; second, opposing power must be developed in the anterior muscles. This is best accomplished by lengthening the Achilles tendon and putting the foot in a cast at about ninety degrees dorsal flexion two to three months for children and four to six months for adults, thus giving time for restoration of the muscular balance. Of thirty-eight of the authors series the limit of dorsal flexion was 105 to 90 degrees. It had poor circulation as shown by cold perspiring feet and all suffered from fatigue and serious impairment of walking. In all these cases the operation resulted in complete relief from all symptoms and none has had to have a further amputation. W. A. CLARK

SURGERY OF THE SPINAL COLUMN AND CORD

Henderson, M. S.: Some Observations on the Operative Treatment of Tuberculosis of the Spine. *St. Paul M. J.* 1911. 560. By S. R. Gynec. & Obst.

The author reports 39 cases operated upon, 13 by the Albee and 6 by the Hibbs methods. He states that he would like to report them as cured but cannot do so and that while all the patients have been improved he considers the operation only an aid to treatment. All patients are advised to wear a brace for a year.

He advises that the operation include two rib-bone and two below the diseased area. Each case should be studied and operation recommended only in those cases showing bony destruction in the radiograph.

The results of the 33 cases reported are as follows: 9 are too early to be reported; 2 have not been traced; 4 were cured; 1 of these died later of acute pulmonary tuberculosis; 12 were distinctly benefited; and 13 months improved; one died later of the disease. JAMES O. WALLACE

Elberg C. A. Laminectomy for Spinal Tumor
Am J Surg Phila 94 1x 454
 By Surg Gynec & Obst

The author bases his report on 58 operations for spinal growth in 37 of which a growth was found. In 9 of these the tumor was intradural but extramedullary. Of those in which no tumor was found about one third were relieved by the operation.

The differential diagnosis between extramedullary and intramedullary tumors was shown to be difficult as two of the cases of intramedullary growths gave a history of pain without dissociation of sensations which is contrary to the generally accepted idea regarding such tumors. The growths are usually located higher than suspected. In one case which was operated upon at the tenth dorsal without result a tumor was found at a subsequent operation at the first dorsal.

The author makes the incision so that the middle of it is three vertebrae higher than the sensory level. It is important to have sufficient exposure and nothing

less than complete laminectomy will accomplish this—hemilaminectomy is useless. The cord should never be grasped with fingers or instruments when necessary to move it a strip of the dentate ligament should be grasped with forceps for making traction. It is disastrous to undertake the removal of an intramedullary tumor unless it has been completely extruded from the cord. Complete recovery cannot be expected unless the operation is performed early in the disease. After several years of pressure on the cord improvement is impossible however slight improvement was obtained in one case of nine years duration.

Of 8 cases of intramedullary tumors removed or in which attempts at removal were made 2 have almost completely recovered 2 have slowly improved 2 died six and eight months later and 2 died immediately after operation. Of 12 cases from which extramedullary growths were removed 6 are well 3 are greatly improved and 3 have not been benefited.
 W. A. CLARK.

SURGERY OF THE NERVOUS SYSTEM

Waugh G. E. Evans, E. L. Sargent P. and Others. The Resection of the Posterior Spinal Nerve Roots—Rhizotomy. *B J S* 94 11, 20
 By Surg Gynec & Obst

The collected reports and opinions of several individual operators are given relative to the results obtained from the section of posterior nerve-roots according to the method proposed by Foerster. The reports include 58 cases in which there were 6 deaths. The results of the operations are discussed as regards the relief of spasticity, visceral crises of tabes, and peripheral pain.

There were 34 cases treated for spasticity, the majority of which were Little's disease. Of these 22 were improved 3 unimproved and 4 died. The criterion of improvement was the ability to walk. The factors which favored success were (1) early age (2) normal mental condition (3) preservation of voluntary power in the muscles and (4) absence of contractures. In brief the operation seemed to be of use in those cases in which spasticity was the main feature and which were best adapted to perform certain physical exercises after operation.

Five cases were treated for the relief of the gastric crises of tabes with the result that 3 were improved and 2 unimproved.

For the relief of pain 15 cases were treated by posterior root section of these 12 were cured and 4 unimproved. In 3 instances the failures seemed to be due to the division of an insufficient number of nerve roots. In the other failure the pain was evidently central in origin.

If the operation is to be successful for the relief of pain, the lesion must be localized and the nerve-roots of at least one segment above and below must

be included in the root-section except in herpes or neuralgia in which the lesion is probably in the posterior root ganglia and section of a single root may be sufficient.
 BARNEY B. OORNS

Williams, T. A. Traumatic Neurosis. *Am J M S* 94 1x 567
 By Surg Gynec & Obst

The cause of traumatic neurosis is shown to be purely psychic derived from a false notion of the patient which induces depressing emotions disturbing to both bodily health and life relation. A clear illustration of the mechanism is that of the conditioning of the gastric reflex of dogs by psychological stimuli whether these are pleasurable or painful. The removal of the extraneous suggestion would remedy the neurosis but for the fact that memory maintains its action so the mental content must be modified at its foundation and this requires considerable analysis of the patient's trends—hence the complete failure of such naive procedures as reassurance and suggestion.

Law suits and malingerer so often interwoven with these cases have created misunderstandings, but identity is not necessarily curative even of the malingerer. A case which lasted seven years after receiving heavy damages is reported.

In the complicated case, proper psychological reconstruction made possible by clear analysis inevitably cures as the mechanism of neurotic disturbance after accidents differs in no way from that found in cases where there has been no accident at all. Furthermore its nature is not so complex as to be beyond the understanding of a layman, so that its principles can readily be grasped when presented in court by an expert witness who really understands them.

MISCELLANEOUS

CLINICAL ENTITIES—TUMORS, ULCERS, ABSCESSSES ETC

Carrel A Present Condition of a Strain of Connective Tissue Twenty Eight Month Old
J Exp Med 94 11:1 By Surg Gynec & Obst

Carrel has previously shown that connective tissue can be kept outside of the organism in a condition of permanent life. The purpose of the experiments he is now conducting is to determine the present condition of a strain of connective tissue which after having undergone 358 passages has now reached the twenty ninth month of its life. The strain of connective tissue was derived from a piece of heart extirpated on Jan. 7, 1912 from a chick embryo 7 days old. The fragment of heart pulsed for 104 days and gave rise to a very large number of connective tissue cells. These cells multiplied actively during the past two years and produced a large amount of connective tissue. At present a great many cultures are obtained from the strain every week.

A comparison of the amount of tissue produced by a given culture in 48 hours this year with that produced in the same time by the same strain of cells a year ago shows that the activity of the strain has increased and Carrel has been able to demonstrate that during the third year of independent life the connective tissue shows greater activity than at the beginning of the first period and is no longer subject to the influence of time. He believes that if accidents are excluded connective tissue cells like colonies of infusoria may proliferate indefinitely.

Goss I Str 128

Jones, F. S. and Roux P The Cause of the Localization of Secondary Tumors at Point of Injury
J Exp Med 94 404
 By Surg Gynec & Obst

It is pointed out that the localization of secondary tumors at points of injury is a very frequent observation for instance it has been shown that mouse tumors may be made to localize secondarily in the liver about splinters implanted in that organ. The authors have carried on a long series of experiments in an endeavor to throw some light upon the cause of this phenomenon and the relation of trauma to the localization of secondary tumors. The results of their study may be summarized as follows:

For the experiment the peritoneal cavity has been employed as offering relatively uncomplicated conditions and the fate of mouse tumor brought into contact with a peritoneal lining injured in various ways has been studied.

The injection of a suspension of mouse tumor into a healthy peritoneal cavity has little success as a rule, compared with a similar injection into the subcutaneous tissue. The authors found that the

resistance of the peritoneal lining thus indicated can be largely if not completely abolished by the preliminary injection of a mechanical irritant. That the change thus brought about is independent of general immunity phenomena is shown by the fact that a local injury renders susceptible the part of the peritoneum immediately affected and that part only. Special tests show that the factor of importance in rendering the peritoneum more susceptible is the injury to the subendothelial connective tissue. Susceptibility persists after the endothelium has regenerated over the reacting connective tissue.

Schmidt has found that the cells of tumor emboli in the pulmonary arterioles are able to penetrate the endothelium of the vessel only after they have been provided with a stroma from the subendothelial connective tissue. The authors' findings are easily explained on the basis thus suggested. A connective tissue highly cellular and perhaps still proliferating as the result of injury may well elaborate the stroma for a tumor more rapidly than normal connective tissue. Tests of growth *in vitro* support this idea. Connective tissue reacting to an injury grows profusely and almost immediately when incubated in plasma whereas normal tissue from the same region usually shows no growth whatever.

Dead tumor fragments in contact with the peritoneum cause a change favorable to the lodgment and growth of later tumor fragments. It seems not improbable that the peritoneal dissemination of certain human neoplasms may be accomplished indirectly through the death of the first tumor fragments cast off.

The authors' observations have been purposely confined to the effects of injury on the peritoneal lining but they seem to afford the basis for a generalization. The secondary localization of tumors at points of injury may be attributed with good reason to the presence at such points of active connective tissue capable of elaborating a stroma rapidly and abundantly for it is the proliferation of the subendothelial connective tissue to form a supporting stroma that determines the fate of free tumor cells whether these lie on the peritoneum or within a vessel.

Goss E Br 128

Kous P and Lange L B The Greater Susceptibility of an Alien Variety of Host to a Tumor
J Exp Med 94 543
 By Surg Gynec & Obst

It has been shown by the authors that a transplantable sarcoma of the fowl known as chicken tumor XVIII in their series, succeeds better in chickens of an alien breed—Plymouth Rock—than in those of the variety in which it originated—brown leghorn. This is not due to gross physical differences in the two breeds but to some more

subtle factor and one which perhaps acts by influencing the agent causing the tumor. It would seem that chicken tumor XVIII as it occurred in nature was an instance of a disease appearing spontaneously in an animal of relatively unsusceptible variety.

GEORGE E. BEILBY

Rous P and Murphy J B Immunity to Transplantable Chicken Tumors *J Exp Med* 94 xx 49 By Surg Gynec & Obst

The phenomena of natural and acquired resistance to transplanted chicken tumors strikingly resemble those observed in the case of transplanted mammalian growths and similarly they suggest that the tumors have an extrinsic cause.

That there may exist in fowls implanted with a chicken tumor a resistance directed against the tumor causing agent distinct from the resistance manifested against the alien tumor cells has been shown in a previous article. Both sorts of resistance are present in a fowl in which a tumor has retrogressed the resistance in such an instance being acquired. That directed against the agent is largely specific giving little if any protection against the agents causing other tumors. There is some evidence that the conditions upon which a fowl's natural resistance depends are the same for the agents causing different chicken tumors.

It has proved impossible to protect chickens against the agent causing the simple sarcoma by injecting them with dried tumor material in which this agent has been attenuated by heat. The transfer of blood from resistant fowls to fowls with growing tumors is in the authors' experience void of effect on the tumors.

GEORGE E. BEILBY

Bryan W A Sarcoma Tex J Med 94 9 By Surg Gynec & Obst

The author refutes the idea that there is a sarcoma age. If the tumor is more frequent in the young than in the old or middle aged individuals it is because people of this age are more numerous, and even admitting this he has seen two sarcomata in adults for every one seen in children.

Sarcomata do not necessarily have to attain a large size before they are recognized. The laity should be taught this. It is wiser to remove a small suspicious tumor and make the diagnosis microscopically after removal than to wait for further developments. Sarcomata as a rule do not produce pain early. Pain occurs only when pressure or infiltration ulceration or inflammation set in. Pain is not pathognomonic, not constant and is never present at the time when the tumor should be recognized and removed.

Early sarcomata are movable except those occurring in bone but they ultimately become fixed. Long before the tumor has immobilized itself many cells may have migrated and established themselves in new territory. Sarcoma-cells enter the blood very easily and metastasis may occur long before the primary tumor becomes fixed.

For this reason it is not advisable to cut sections for diagnosis. The blood vessel walls in the tumor are very thin and when broken down the tumor cells enter the circulation readily.

The author urges the early removal of tumors which are at all suspicious. The final diagnosis is best made after removal.

EDWARD L. CORNELL

Loss J R and Ebeling A H The Cultivation of Human Sarcomatous Tissue *in Vitro* *J Exp Med* 914 xx 140 By Surg Gynec & Obst

The first attempt to cultivate human malignant tumor *in vitro* was made in 1911 by Carrel and Burrows. Small fragments of tumor were cultivated in normal human plasma and incubated. It was observed in some cases that after a few days the fragments were surrounded by many cells but generally liquefaction of the medium occurred. The tissues were kept in a condition of survival for a few days but no real cultures were obtained. Lately it has become possible to keep human foetal tissue derived from fresh cadavers in a condition of independent life for several generations and the authors therefore attempted to cultivate human sarcomatous tissue in the same manner.

Two experiments were made in which fragments from human sarcomatous tissue were cultivated. It was possible to keep cultures of such tissue in a condition of active life *in vitro* for several generations.

During the first 24 hours of incubation there was usually no evidence of cell proliferation and only slight liquefaction around the primitive fragments. When no liquefaction occurred growth of new cells manifested itself after 48 hours. Twenty-four hours after passage into fresh medium (first passage) cell proliferation was observed in those cultures which showed no evidence of growth when first cultivated. In comparison with human connective tissue the rate of growth was practically the same as in the beginning but a gradual decrease in the activity and extent of cell proliferation was observed as the length of time increased during which the culture was carried through successive passages. Microscopic examination of the first outgrowth of cells showed the presence of large round cells as well as elongated and ramified ones. In subsequent passages the round cells were no longer to be identified and the elongated ramified variety only were observed.

The results obtained led Loss and Ebeling to conclude that it is possible to cultivate fragments of human sarcomatous tissue *in vitro* for several generations and that the method employed may prove of value in the study of the growth of human malignant tumor.

GEORGE E. BEILBY

Davis B F Report of a Case of Sporotrichosis *Surg Gynec & Obst* 94 490 By Surg Gynec & Obst

The patient a woman 77 years of age sustained an injury to the hand by a bay needle or cactus

needle following which a series of moderately indurated papules and papulopustules developed on the dorsum of the forearm extending from the wrist to the region of the external epicondyle of the humerus. They increased in size very slowly showed no tendency to be less and were almost painless and were very slightly tender on pressure. Clinically the lesions were typical of sporotrichosis. The sporotrichium was cultivated in pure cultures from the lesions comparative opsonic and agglutination tests demonstrated a high content of specific antibody in the patient's serum in the serum of a second patient and in the serum of an animal immunized by the injection of killed sporotrichus spores. Several different strains of sporotrichum were tested in this way and all served equally well as antigens demonstrating between them was impossible by the serologic tests. There was neither local nor general eosinophilia contrary to the observations of a number of men who have suggested that eosinophilia might be of diagnostic importance.

There being a cutaneous lymphangitis the large lesions were incised and the patient placed on large doses of potassium iodide. Healing was uneventful and when last seen about six weeks after operation the patient appeared to be making very satisfactory progress. In cases which prove refractory to iodides copper sulphate in an eighth to one-half grain doses in capsules, vaccination with heated sporotrichus spores and X-ray exposure may be of benefit.

McCauley F. B. Eruptions Following Operations
S. J. Gynec & Obst. 94

By Surg. G. E. & Obst.

Skin eruptions were observed after operation in 43 out of 1000 consecutive cases and were of two types the first appearing within twenty-four to forty-eight hours after operation and the second appearing after a longer interval.

The erythematous or papular eruption of general distribution with no systemic disturbance and little elevation of temperature. Itching was marked from the beginning and the face was involved in every instance. In the third class of cases the eruption appeared suddenly three or more days after operation. Duration of the eruption was no prodromata but the temperature had continued higher than normal convalescence and the blood showed a moderate leukocytosis. The condition varied from localized to an almost continuous eruption and in some cases at first resembled scarlet fever or measles. It began as an erythematous or fine papular eruption located first on the inner surfaces of the forearms and thighs and extended over the whole body rarely affecting the face and never involving the palms and soles. It was accompanied by marked itching which persisted until fading occurred. The papules were at first pink and later dark red with a tendency toward coal-

escence over bony parts and the eruption reached its height in twenty-four to thirty-six hours after which it began to subside. The onset occurred as late as seven days after operation and the condition persisted for from one to seven days. Desquamation was not observed in any case.

The temperature showed an elevation of about one-half degree over that of a normal convalescence and this elevation continued until the eruption had disappeared. Daily leucocyte count showed an increase to 14,000 which was also maintained until the eruption faded.

In all of the cases in this series ether was the anesthetic employed but cases have been previously reported where nitrous oxide and chloroform were used. Cathartics enemas or drugs seemed to have no influence and there was no definite relation to menstruation.

The condition seems to be due to a combination of factors there being in each case an immediate cause a certain individual idiosyncrasy and an underlying nervous susceptibility.

The immediate cause takes the form of mechanical irritation such as operative shock enemas or drugs and the underlying cause acts probably as a vasomotor disturbance due to irritation of sympathetic nervous fibers.

Engstad J. E. Psychic Shock Following Operation
J. La. Med. 94

By Surg. Gynec & Obst.

In a brief paper the author states that the belief that psychic and physical shock are correlated that psychic shock may follow a very minor or major operation be transitory in effect or remain permanent and wreck the patient's life. He advocates Crime's association of medicine and physical impressions at the time of the operation in order to prevent as much as possible a painful and depressing influence from reaching the mind of the patient. The operation should lose no time either in the preparation or during the operation. The nurse should preferably give oxygen, should be given in minimum quantities by a skilled anesthetist in order to minimize the number of cases suffering from general nervous exhaustion. The source of supply which in his belief augmented by a few quoted statistics due to a great many unnecessary operations being daily performed should be limited.

I. C. R. 1917

SERA VACCINES AND FERMENTS

Schumkowsky Trubin. The Abdominal Reaction in Carcinoma (Die Abdominalreaktion bei Carcinom). Die Abdominalreaktion bei Carcinom. By Surg. G. E. & Obst.

The author gives tables showing the result of a number of other authors in testing the abdominal reaction on the diagnosis of carcinoma also the results of two series of cases of their own one 64 cases and the other 15 cases well as some

permental work on white rats. She concludes that the protective ferments in the serum of cancer patients are not strongly specific among 73 cancer cases examined with placenta 50 reacted positively among 19 pregnant patients with cancer substrate 13 reacted positively.

The Abderhalden reaction is positive in about 95 per cent of cancer cases. The more homologous the tumor and the substrate are the greater the number of positive cases but there are as yet so many difficulties and sources of error in the reaction that it can hardly be recommended for daily use. Early diagnosis by means of the Abderhalden reaction does not as yet seem to be possible but the question should be investigated further. A. COSS.

Ball, C. F. Abderhalden's Test in the Diagnosis of Cancer. *J Am Med Ass* 94 10: 169.

By S. R. Gynec & Obst.

The author states that some cases that are clinically not malignant give positive test especially myomata and pregnancy. This may be due to three causes:

1. Using cancer of the uterus as a substrate normal uterine cells mixed with the cancer tissue may be digested by the ferments of the blood of myomatous or pregnant women.

A given individual may have had a clinically latent carcinoma and spontaneously recovered.

3. The developing carcinoma may be in such an early stage as to be clinically undemonstrable.

The author lays stress on the fact that a negative reaction is of more value than a positive one because of the many possibilities contributing to an erroneous positive finding. It is of especial value in differentiating gastric ulcer and gastric carcinoma. Stress is laid on the preparation of the substrate to be acted upon by the cancer serum. The tissue should be as fresh as possible with as little of the tissue that the carcinoma is invading as possible.

A description of the author's technique is given. It is comparable to the original Abderhalden technique with the exception of some minor details.

Of 46 known cancer cases all reacted positively while of 46 unknown cases with a tumor of some organ present 37 were positive and 9 negative. Of 24 known non-cancerous patients 9 gave positive reactions. The author summarizes as follows:

Car fully prepared histories of all cases examined should be kept.

2. All cases should be followed especially cases that give a positive reaction though not clinically malignant at time of making the test.

3. Care in the selection of fundame is should be observed a car fully prepared statement concerning them do or with a microscopic study of each should be kept.

4. Varied association of data pertinent to the patient and fundaments with reaction obtained is essential.

5. Reexaminations in determining the progress of the disease are of especial value.

6. The test cannot as yet be regarded as strictly specific for the diagnosis of cancer.

7. A positive reaction however should receive careful consideration before it is called erroneous.

F. H. FALLS.

Vaughan, J. W. Cancer Vaccine and Anticancer Globulins as Aids in the Surgical Treatment of Malignancy. *J Am Med Ass* 1914 12: 1238.

By Surg. Gynec & Obst.

The author gives a report of 100 cases treated with cancer vaccine and anticancer globulins. The globulins were obtained from the large mononuclear leucocytes in animals which had been sensitized to cancer cells.

Of the 100 cases 50 were inoperable. Of these cases 2 are apparently well and without recurrences and 4 are markedly improved. The advanced cases in which operation was performed in combination with specific treatment were 31 in number of these 23 or 73 per cent are apparently well.

The study of the blood counts would indicate that cases in which the percentage of large mononuclear leucocytes increases from 10 to 20 per cent following specific treatment do well while those that run a high polymorphonuclear count and in which the percentage of large mononuclear cells is not materially increased are not benefited.

The use of the vaccine is especially indicated as a preliminary measure to operation. The injection of the vaccine is followed within 24 hours by a marked increase in the large mononuclears. Operation is best performed at this time since these mononuclears are better able to destroy cells which may be left in the operative field or forced into the blood or lymph stream by operative manipulations.

The injection of globulins seems to produce marked improvement for the first three or four doses after which the ferment often loses its efficiency. The explanation of this phenomenon is the probable formation of an anti ferment.

It is the author's custom to give an intraperitoneal injection of vaccine 24 hours before operation. If the increase in large mononuclear leucocytes reaches from 5 to 5 immediately before operation that is deemed sufficient. If this does not occur then an intravenous injection of 100 mg of globulins is given following the operation. In all of his cases alternate vaccine and globulin injections are frequently given for the first six months after operation and once a month thereafter.

J. H. SKILLS.

Fry, O. J. Anaphylactic Reaction Following Operation for Echinococcal Cyst. *Texas Med J* 1914 12: 1238.

Surg. Gynec & Obst.

By S. G. Gynec & Obst.

While hydatid intoxication has long been recognized as a possible sequence of exploratory puncture and therapeutic paracentesis of echinococcal cysts hydatid intoxication as a sequence of open operation has been accorded a place in medical literature only within the last few years. The

from the peripheral opening in the aneurism while the proximal end is compressed with a clamp it is presumed that the collateral circulation is sufficient.

4 Von Frisch's three signs are applicable only in the field of operation. If the proximal side of an injured vessel is compressed, the efficiency of the collateral circulation may be demonstrated by (a) Normal or approximately normal coloration (living color) of the periphery. (This sign was previously insisted on by Matas.) (b) Arterial hemorrhage from the peripheral opening of the injured vessel. (Repetition of Henle Coenen sign.) (c) Venous stasis below the peripheral side of the clamped main vein. (von Frisch.)

5 Korotkow's test depends on tonometric and sphygmomanometric measurements of the blood pressure in the peripheral parts. If the peripheral blood pressure is more or less sustained after compression of the main trunk immediately above the aneurism then the collateral circulation is adequate and the artery or the aneurismal sac may be extirpated or obliterated.

6 The Pachon test is on the same lines as the Korotkow test and consists of an oscillogram which depends on the record of the blood pressure in the peripheral parts to determine the existence of the circulation in these parts after the temporary occlusion of the main artery.

7 In the Tuffier and Halson test a circular band is made to encircle the extremity. If the band is tightened it will compress the veins interfere with the return circulation and cause a marked venous turgescence and swelling of the foot but the arterial flow is not interfered with. If this maneuver is repeated with the main artery (femoral) compressed the veins of the foot will swell, only on condition that sufficient arterial blood is brought to the foot by collaterals.

8 Stewart's calorimetric method of estimating the quantity of blood circulating through a part in a given period of time is especially applicable to the extremities—the hands and feet.

9 The author's methods are (a) Hyperæmia reaction or living color test—suggested by Moscowitz. This test is reserved for the extremities wherever it is possible to compress the main artery. Complete ischaemia of the limb is obtained by elevation and application of an elastic bandage to the level of the lesion. Then a Matas compressor is applied until the aneurism is absolutely stilled and is allowed to remain from six to ten minutes. Immediately on removal of the elastic bandage the compressor being still in place a hyperæmic flush descends the limb rapidly. The digits retain a dusky or cyanic lifeless pallor for several seconds which may be prolonged ten to forty minutes or even longer according to the development of the collateral. (b) The second test is based on the preliminary occlusion of the main artery with the pliable and removable lumen band.

The chief merits claimed for the author's tests are simplicity and ease of application.

2 Reliability in furnishing fair and dependable information for clinical purposes.

3 That the test may be applied with a minimum of trauma to the blood vessels and the affected parts.

LUCIAN H. LANDRY

Halsted W S. Partial Closure of Large Arteries. (Der partielle Verschluss grosser Arterien). *Arch f Klin Chir* 1914 CV 580 By Surg. Gynec & Obst.

Halsted has constructed a special instrument for rolling a strip of aluminum or silver around arteries. He has used the method for the treatment of aneurisms both experimentally on dogs and clinically on human beings. He finds that some aneurisms can be cured by partial occlusion of the artery. The human aorta can be occluded without danger to such a degree that the femoral pulse is suppressed.

If the aortic aneurism is not cured by the first partial occlusion the artery can later be still further occluded or possibly even ligated after the heart has been prepared for it by the establishment of a satisfactory collateral circulation. The metal strip can be left around a normal aorta for several months or even a year at least until good collateral circulation has been established. If the artery is diseased it may atrophy under the metal and become so thin that it ruptures on exertion. Such a case is described. The author thinks a metal band can be left permanently on any other artery than the aorta without danger of hemorrhage.

Sometimes the lesser arteries are transformed into a fibrous cord. Halsted has observed this four times in the aorta of dogs. In all of these cases the artery was almost completely occluded. In all arteries except possibly the aorta the band may be drawn so tight that the pulse—not however the blood stream—is suppressed if the condition of the heart is not such as to contra-indicate such a degree of occlusion. The danger of gangrene or functional disturbance is slight if the blood stream is not entirely cut off. In some cases of aortic aneurism it may be advisable to use fascia lata instead of metal but the degree of compression cannot be determined as accurately or maintained as well as with the metal. Moreover a great deal of practice is necessary to apply the fascia spirals very little to apply the metal.

A. COSS

Warren R. The Application of Suturing to the Vascular System. *Lancet* Lond 1914 LXCVII 835 By Surg. Gynec & Obst.

The subject is treated under three divisions: (1) wounds of the heart; (2) injuries to blood vessels; and (3) aneurisms. In wounds of the heart that are repaired by suture the author suggests that the use of vaselined sutures as used by Carrel might obviate possible thrombosis—a condition he had to contend with in his case.

The first case was a stab wound of the right ventricle which was operated upon four hours after injury. The patient 48 years old when seen by the author was pale and anxious feeble pulse of 120.

direct toxicity of hydatid fluid is slight but sufficient fluid escapes through the cyst wall by dialysis and is absorbed to sensitize the organism which then responds to the absorption of even relatively small quantities of the fluid such as may readily take place during an open operation or varying degrees of anaphylactic shock.

Fay employs Dévé's classification of these symptoms and divides hydatid intoxications into three groups: (1) benign (2) grave and (3) fatal.

1. In benign intoxications fever and urticaria are the most characteristic symptoms while dyspnea, cyanosis, lesser nervous disturbances and bronchitic phenomena are also common. The symptoms are not of a disquieting nature and are usually transient.

2. The second group is dominated by symptoms of syncope and collapse often accompanied or replaced by nervous manifestations of a more serious order. The symptoms of the first group may be present but are of secondary importance. The symptoms usually develop soon after operation and are of brief duration.

3. The fatal cases are usually ushered in by a sudden rise in temperature, serious respiratory difficulties and shock are of frequent occurrence. Nervous symptoms are often marked, urticaria is not reported. Death supervenes from 24 to 48 hours and autopsy fails to reveal any gross lesions.

The presence of eosinophilia and a specific antibody as shown by the fixation of an form results obtained by the complement fixation test suggests that in the future it may be found possible to recognize a sensitized patient by an echinococcal cyst. These patients would then require desensitizing treatment. Of what such treatment will consist is still a matter of conjecture but the results of animal and human experimentation seem to promise an anti-anaphylactic therapy for the near future.

BLOOD

Miller S. R. The Normal Differential Leucocyte Count. *Br J Clin Pathol* 9:4 247
By S. R. Gynec & Obst

The author was able to record the results obtained in making a large number of differential leucocyte counts upon medical students as a part of the routine work in the course in clinical microscopy at the Johns Hopkins Medical School.

From the analysis of his results he finds that—
1. The total leucocyte count and differential formula in normal individuals are subject to relatively wide variations, which must be considered in the interpretation of studies made upon the blood of individuals presumably suffering from abnormal conditions.

2. The interpretation of any differential count should be based upon (a) A knowledge of that particular individual's normal blood picture when possible (b) The average values for the locality in which that individual resides (c) A consideration

of those factors peculiar to the individual which might modify that particular blood.

3. Differential leucocyte counts should always be reported in terms both of percentage and absolute numbers per cubic millimeter and in all cases where possible more than one differential count should be made especially in borderline cases in which slight changes are to be regarded as of diagnostic or prognostic value.

4. The tendency to ascribe a diagnostic value to lymphocytosis is probably overdone. Only when the mononuclear elements constantly exceed the average percentage absolute values and upper limits of variation (35 to 40 per cent) for the community and when all modifying factors are considered should an attempt be made to draw valuable conclusions from the figures obtained.

George E. Barlow

BLOOD AND LYMPH VESSELS

Matas R. Testing the Efficiency of the Collateral Circulation as a Preliminary to the Occlusion of the Great Surgical Arteries. *J Am Med Ass* 9:4 124, 44
By S. R. Gynec & Obst

In an exhaustive article the author describes all the available methods for ascertaining the presence or absence of collateral circulation. The aim in testing the collateral circulation is to avoid complicated uncertain operations whenever possible by means that will furnish the information without trauma and that will permit of postponement of the operation in order that such prophylactic measures may be applied as will develop a sufficient collateral circulation. The following methods are enumerated:

1. The Quénou and Muret sign comprises the bleeding of the peripheral parts on puncture or incision while the main trunk of the limb is compressed. If no bleeding follows the compression of the main artery it will indicate a insufficiency of the collaterals. This test is fallacious inasmuch as the pedal pulses are often totally suppressed in aneurysms of the lower extremities and that scant if any hemorrhage will occur from the peripheral vessels, and yet the nutrition and circulation of the foot are well preserved after the main channels have been blocked.

With Delbet sign the formation of an aneurysm or a tumor, the course of the main artery of a limb is followed by the gradual or sudden obliteration of the peripheral pulses. When this occurs without apparently affecting the nutrition or vitality of the extremity it may be concluded that the collateral circulation has been fully established and that the obliteration of the main trunk by operation can be undertaken with safety to the limb. (This sign is considered most valuable by Matas.)

3. The Hele Coenen sign is applicable only in the field of operation when the injured artery is exposed above and below the lesion. If blood flows

from the peripheral opening in the aneurism while the proximal end is compressed with a clamp it is presumed that the collateral circulation is sufficient

4 Von Frisch's three signs are applicable only in the field of operation. If the proximal side of an injured vessel is compressed the efficiency of the collateral circulation may be demonstrated by (a) Normal or approximately normal coloration (living color) of the periphery (This sign was previously insisted on by Matas) (b) Arterial hemorrhage from the peripheral opening of the injured vessel (Repetition of Henle Coenen sign) (c) Venous stasis below the peripheral side of the clamped main vein (von Frisch)

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The chief merits claimed for the author's tests are
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LUCIAN H. LANDRY

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If the aortic aneurism is not cured by the first partial occlusion the artery can later be still further occluded or possibly even ligated after the heart has been prepared for it by the establishment of a satisfactory collateral circulation. The metal strip can be left around a normal aorta for several months or even a year at least until good collateral circulation has been established. If the artery is diseased it may atrophy under the metal and become so thin that it ruptures on exertion. Such a case is described. The author thinks a metal band can be left permanently on any other artery than the aorta without danger of hemorrhage

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The first case was a stab wound of the right ventricle which was operated upon four hours after injury. The patient 48 years old when seen by the author was pale and anxious feeble pulse of 120

There was a small linear wound three quarters of an inch long over the precordium. On opening the pericardium a large amount of blood was found and a wound one and one quarter inches long in the anterior surface of the right ventricle. The wound was effectually closed with five silk sutures. With the exception of a slight left pneumothorax and a femoral thrombosis the patient made an uneventful recovery and was alive and active three years after the injury.

The second was an excision of an injured portion of the femoral artery with end to end anastomosis. The patient a 17 year old boy had been shot with a small caliber revolver at a range of 50 yards the bullet entering at the apex of Scarpa's triangle. On exploration it was found that the femoral sheath had been pierced the femoral artery was lead stained on its outer surface and was slightly dilated and thinned at the point of impact. The injured half inch of the femoral vessel was excised and the ends approximated and sutured by the Carrel technique. Although there was some narrowing at the site of suture pulsation in the dorsalis pedis artery could be felt after the operation. The author admits however that this result could have been accomplished by collateral circulation after obliteration of the main vessel.

The third case a punctured wound of the brachial artery resulting in false aneurysm treated by suture occurred in a lad of 15 years who had been stabbed in the inner side of the left arm. Six weeks after the injury a swelling developed in the region of the wound which eventually extended over the entire length of the inner side of the arm. A radial pulse could be detected there was anesthesia of part of the thumb and first three fingers and weakness of the flexor muscles of the wrist and fingers. On exploration a false aneurysm was found communicating with the brachial artery through a slit about a half inch in length. The median nerve was found to be flattened and thinned but not divided. The operator had hoped to restore the lumen of the vessel by suture but the vessel had become impervious below the site of injury. However the aneurysm was cured by the suture.

In speaking of the treatment of aneurysms the author gives a short résumé of the methods in vogue. He distinctly favors that of Matas (endo-aneurysmorrhaphy) of which Case 3 is an example of the restorative type.

LUCAS H. LAXER

Leriche R. Stretching and Section of the Perivascular Nerves in Painful Symptom-Complices of Arterial Origin and in Trophic Disturbances (Über die Dehnung und Durchschneidung der perivaskulären Nerven bei manchen schmerzhaften Symptomkomplexen tierischen Ursprungs und bei manchen trophischen Störungen). *Deutsche Zeitschrift für Chirurgie* 94, 1919, 38.

By Surg. Gynec. & Obst.

The procedure suggested in the above title might seem paradoxical as stretching of the solar plexus

has proved a failure in the gastric crises of tabes but in tabes the peripheral sympathetic element is only a part of the general nervous disturbance. However there are several purely sympathetic syndromes in which stretching of a perivascular plexus seems to be indicated. Among these is the intestinal symptom-complex caused by partial or partially compensated obliteration of the mesenteric arteries. The symptoms are crises of pain in the umbilical region, distention of the intestine, complete constipation a feeling of oppression, and more or less intense dyspnoea. Its logical outcome is thrombosis of the mesenteric. It might be called Raynaud's disease of the intestine. Stretching of the coeliac plexus and its peripheral branches is indicated.

The procedure promises still more in scirrhus of the arch of the aorta with its excruciating pain. The perivascular nerve plexus becomes embedded in tissue which has become hardened by inflammatory sclerosis. The aorta can be reached and the nerves stretched by resecting the second and third costal cartilages. By the same procedure applied to the arteries of the extremities good results have been obtained in Raynaud's disease and in congenital trophic oedema.

In one case of Raynaud's disease the author has debared the femoral in Scarpa's triangle and the circumference of the limb decreased 2 cm. It is certain that exposing the femoral artery and stretching the perivascular nerves produces marked changes in vasomotor and trophic innervation. A proof of this is seen in the favorable effect of this simple operation in many stubborn cases of perforating ulcer of the foot.

A. Goss

SURGICAL THERAPEUTICS

Denkis G. Clinical and Experimental Study of Hormonal and Neohormonal (Über Hormonal und Neohormonal klinische und experimentelle Studie). *Deutsche Zeitschrift für Chirurgie* 94, 1919, 3.

By S. F. Goss & Obit.

In 1908 Zu Lier, Dohrn and Marxer reported a new medicament that they said acted as a specific in stimulating intestinal peristalsis. Such a remedy was very much needed in post-operative disturbances of intestinal function. They called their preparation hormonal and recently an improved preparation neohormonal has been advanced. Its advantage over the older one is that it does not cause a fall in blood pressure and it can therefore be used in large doses without any danger.

Denkis tested these two preparations in 40 animal experiments and in about 140 clinical cases and found that they really have a very powerful effect in stimulating intestinal peristalsis, whether given intravenously or intramuscularly. In favorable cases of chronic constipation they have an effect that persists for several years. They are more frequently successful in human cases than in animal experiment. The use of neohormonal is

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In 1903 Zeisler, Dohrn and Marner reported a new medicament that they said acted as a "specific" in stimulating intestinal peristalsis. Such a remedy was very much needed in post-operative disturbances of intestinal function. They called their preparation hormonal and recently an improved preparation neohormonal has been advanced. Its advantage over the older one is that it does not cause a fall in blood pressure and it can therefore be used in large doses without any danger.

Denke tested these two preparations in 40 animal experiments and in about 40 clinical cases and found that they really have a very powerful effect in stimulating intestinal peristalsis whether given intravenously or intramuscularly. In favorable cases of chronic constipation they have as an effect that persists for several years. They are more frequently successful in human cases than in animal experiment. The use of neohormonal is

therefore indicated in all cases of post operative disturbance of peristalsis as well as in all kinds of chronic constipation. In mild and moderate cases it should be given intramuscularly 20 ccm should be given first. If it is not effective in 6 to 12 hours the dose may be repeated intravenously. In cases of severe paresis of the intestine where rapid action is desired it should be given intravenously twenty ccm should be given and repeated after 4 to 6 hours. In particularly severe cases 30 to 40 ccm may be given at first and repeated after 6 to 12 hours. The neohormonal should be supplemented by enemas heat etc. and in the worst cases it may be combined with physostigmin or atropin. In chronic constipation 20 ccm should be given intramuscularly supplemented for the first two to four days by laxatives such as castor oil senna cascara etc. If it is not effective in that time 20 to 40 ccm more should be given and in especially stubborn cases 80 ccm or even more may be given. For children under 10 years of age half the above doses should be given. It can be given to infants of only a few months. If sufficiently large doses are given it seldom fails either in post operative cases or in chronic constipation.

A bibliography of 74 titles follows the article

A. Goss

MILITARY SURGERY

Kotschetoff B. J. Effect of Pointed Bullets, Based on Experience During the Balkan War (Über die Wirkung der Spitzgeschosse auf Grund von Beobachtungen während des Balkankrieges). *S. mml d. Mitt. d. A. u. d. R. s. Gesellsch. v. Rel. A. u. s.* 914. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Among 920 wounded men 576 or 62 per cent were wounded by pointed bullets. These 576 patients had 629 wounds. The pointed bullet used by the Turks showed a great tendency to deformity all degrees of which were observed 35 per cent of the bullets extracted being deformed. In three cases the extracted bullets had their points directed outward but only in one case could it be shown that the rotation took place inside the body. The bullets remained in the body in 10.9 per cent of the cases. In injuries of the soft parts only the size of the entrance and exit wounds in 90 per cent of the cases varied from one half of the diameter of the bullet to two and one half to three times its diameter. The exit wound was generally larger than the entrance wound but the opposite condition was sometimes observed. The wounds were generally round in shape but sometimes cleft shaped.

In some shots at close range—6 per cent of the cases—the soft parts showed signs of an explosive effect. When bones also were injured the wounds were of the ordinary size in only 61 per cent of the cases. In 18 per cent both wounds were of large size and in 21 per cent the exit wound was very large.

There were injuries to the bone in 24 per cent of the cases. 11 per cent of them puncture fractures

54 fractures without marked comminution 35 per cent comminuted fractures. Owing to the small external wounds the course in the gunshot fractures was favorable. Of 19 gunshot injuries of joints 15 recovered uneventfully there was infection in 4.

Blood vessel injuries by jacketed bullets were observed in 11 cases. In one case the apex of the bullet was in the wall of the posterior tibial artery and when it was removed there was copious hemorrhage. Skull injuries were observed in 10 cases in 5 of them the bullets remained in the skull and 2 of these cases died. Of the cases in which there was perforation 2 died. There were 7 cases of gunshot wounds of the abdomen—in 4 of these the bullet remained intact. One of the 7 patients died. There were 30 cases of gunshot injuries of the lungs 3 of which died. In 11 cases the bullet remained in the wound.

In half of the cases there were complications such as hemothorax or inflammatory symptoms in the lungs. Of the 576 injuries by pointed bullets 21.5 per cent were infected but Kotschetoff thinks this percentage too high to be taken as valid for wounds in general as his patients had been handled previously and the poor first aid and poor transportation were responsible for many of the infections.

Horæca.

Makins G. H. A Note on the Wounds of the Present Campaign. *Lancet* Lond. 9.4.11. 903. By Surg. Gynec. & Obst.

The relative frequency of wound from bullets of small caliber and those inflicted by shrapnel or fragments of shells which were observed in the South African war has actually been reversed in the present European war. Moreover of the limited number of bullet wounds a considerable portion have been inflicted by machine guns of the Maxim type and not by rifles. Wound produced by the small caliber bullet maintain an aseptic condition if uncomplicated while shrapnel and shell wounds without exception become infected and suppurate. The mere occurrence of suppuration in the case of even extensive wounds of the soft parts has led to less serious consequences than might have been expected the sloughy surfaces rapidly clean up especially under the influence of an iodine bath (1 to the O.) and the patients after a couple of days rest in bed show very little signs of constitutional infection. The wounds produced by the shrapnel balls vary in importance with the velocity retained at the moment of impact some merely bruise while others penetrate and others produce injuries of the most severe explosive type. The vast majority of the wounds heal nicely and it is really remarkable how little the majority of the men are affected psychically by the grave conditions.

Suppuration and a variable amount of sloughing of the soft parts occur as a rule. After a few days the most striking feature is the rigid extension of the skin margin of the wound which persists for some time. In a certain proportion of cases the

result is more serious especially in men who have lain out a long time and suffered during transport. A spread gangrenous cellulitis develops which rapidly extends the entire length of the limb to the trunk. The tissues are often crepitant and a dark reddish discoloration appears over the dependent parts. The resulting gangrene is difficult to treat by amputation as the flaps rapidly assume the condition of the gangrenous part removed. Gangrene of this character is responsible for a very considerable mortality.

A serious complication of wounds is the development of acute tetanus running a very rapid course but not marked by very severe spasms. This usually develops during the first week after the reception of the wound but sometimes a late as the tenth or fifteenth day. The initial source of infection is to be traced to the soil and there is no doubt that these complications are the direct result of difficulties of collection and transport of wounded attendant upon the military conditions under which fighting is now taking place. Many of the patients lie in the trenches until the darkness of night allows their removal their clothes are infiltrated with mud, while the same shell which has caused the wound often brings down the soldier of the trench and the injured limb may be covered with soil again the fragment of shell itself is commonly fouled with soil.

D. W. C. BALFOUR

Report of British Army Medical Service Condition of the Wounded at London 94 1894

By Surg. Gen. & Obst.

Judging by reports from the London hospitals the condition of the wounded British who have arrived there can be considered very satisfactory. Of those who came from the front after the battle of Mons and during the retreat the majority suffered from general exhaustion want of rest and foot soreness rather than from wounds. Rest and care worked immediate restoration in the majority of cases. Of those who came after the battles of the Marne and the Aisne nearly all were suffering from shell and bullet wounds the number of the former greatly preponderating as is the case in the French hospitals. The striking point was the extraordinarily good condition in which the men arrived and the careful and clean nature of the dressings. Considerably less than 10 per cent of the patients were found with comparatively large proportion of shrapnel injuries. Rapid healing taken place in many cases and the men soon regained their general health. Every possible opportunity had been taken during their transportation to change the dressings.

D. W. C. BALFOUR

Stevenson W. F. The Use of Dum-Dum and Explosive Bullets in War 1904

By Surg. Gen. & Obst.

The author states that surgeons at the front and especially young civil surgeons inexperienced in

bullet wounds are accusing their enemies of using dum-dum bullets. The dum-dum bullet is so named after the place near Calcutta where it was first made. It is precisely like the Lee-Enfield bullet, except that the cupronickel envelope ends near the shoulder about three eighths inch from the point leaving the leaden core exposed for that distance. Other forms of this class of missile have a hollow or dimple in the fore end which is uncovered by the envelope or they have cross cuts made with a saw in the direction of the long axis of the bullet but in all of them the same object is desired—that they should readily break up on contact or at all events on striking bone.

The mere fact of finding bullets broken into numerous fragments in wounds is no proof that the type of missile is being used by the enemy. The ordinary service bullet sometimes parts with its envelope which may be torn into jagged and twisted strips of metal while the leaden core is broken into sloughy pieces with the result that its destructive effect on the soft parts of the limb is greatly increased. The only certain evidence of the employment of bullets of this type is the finding of them or fragments of them in the patients during their surgical treatment or in the positions recently evacuated by the enemy.

The employment of explosive small-arm bullets in warfare comes under another category altogether.

Army surgeons and civil surgeons employed on a campaign find a fairly large number of wounds the entrance apertures of which are clean-cut circular holes of about the size of the end of an ordinary pencil while the exit wounds are of great superficial area and accompanied by bone fractures of great severity and extensive comminution together with widespread destruction of the soft parts. That injuries of this class could be due to the passage of a solid bullet of quite small caliber appears to those who see them for the first time to be impossible and the ready explanation is immediately proclaimed that the enemy is using explosive bullets other than those for artillery guns. That is the usual small arm bullets contain a bursting charge within them which explodes on contact with the object hit. These cases have been met with and views have been held and similar reports made regarding them since small arms of the more powerful kinds were first employed in warfare—the Snider-Mintum Rifle Lee-Enfield Muser-Label etc.—and practically every year for the last fifty years each side has accused the other of using these explosive small arm bullets whereas in fact they have not been used at all.

Stevenson was present and had to report on a large series of experiments carried out at Woolwich when small bore rifles (Lee-Metford and Lee-Enfield) were first adopted in the British service for the purpose of ascertaining the probable effect of this projectile on men in actual war. The results obtained in these experiments showed that

result is more serious especially in men who have been taken during their transportation to change the general health. Every possible opportunity had in many cases and the men soon regained their connection with the comparatively large proportion of wounds were found which is remarkable taken in and the careful and clearly nature of the dressings irrationally good condition in which the men arrived French hospitals. The striking point was the ex former greatly preponderant as in the case in the from shell and bullet wounds the number of the the German and the Allies nearly all were suffering cases. Of those who came after the battles of worked immediate restoration in the majority of some cases rather than from wounds, rest and care from general exhaustion want of rest and food. All those and during the retreat the men jointly suffered Of those who came from the front after the battle arrived there can be considered very satisfactory results, the condition of the wounded British who have judged by reports from the London base has

Report of British Army Medical Service Commission of the Wounded at London, 9 & 10 June 1916

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Order strongly favors vaccination against typhoid
1913 there were only 3 cases of typhoid due to this
vaccination. Previous to this there had been 353
per thousand.
M S HENKINSON
Hermann-Johnson F A Simple and Rapid Method
of Localizing Bullets. *Bull J* 9 4 n 75
By Surg. Gynec. & Obst.
The limb is placed on the table with the X ray
tube below and the general position of the bullet is
ascertained by the fluorescent screen. A small
metal ring is then manipulated until it encloses the
image of the bullet. This place is then marked with
silver nitrate on the skin. The limb is then rotated
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lines from these two points drawn perpendicular
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vicinity of the bullet.
J H. SKINNS
Further, C Indirect Gunshot Fractures Distal
Effects of Infantry Bullets on Nerve Tissue
(Die indirekte Schussfrakturen nach Be-
merkungen über Fernwirkungen des Infanteriegeschos-
ses auf das Nervengewebe) *Wiener Zeitschr f*
Chir u 4 klin 19 By Surg. Gynec. & Obst.
In 1901 the author described a fracture of the
tibia which occurred during the Belgian expedition
where the bullet did not strike the bone directly, the
fracture being considerably below the track of the
bullet. He has never found any similar reports in
the literature but has observed two apparently
similar cases in the present war. He therefore shot
some dead horses with dum dum bullets to see
whether he could produce such fractures indirectly
and succeeded in breaking the powerful femur of a
horse without striking it with the bullet.
He also describes the case of a soldier who was
struck by a pointed French bullet. The bullet
struck the deltoïd and rotated so that its apex
pointed outward. The brachial plexus was not
struck but a severe motor and less severe sensory
paralysis developed. No anatomical lesion could
be found on day 8 after the nerves. Similar distant
effects are observed in the brain. Bullets may
fracture the skull without injuring the dura and
yet circumscribed cortical paralyses will develop.
A. COSS.

Water W Bacilli and Bullets *Bull J* 1911 n
569 By Surg. Gynec. & Obst.
Order warns the soldiers against enemies subtle
dangerous and fatal—enemies against which no
successful battle can be fought without intelligent
cooperation. So far the world has only seen one
great war waged with the weapons of science
against these foes. The Japanese went into the
Korean campaign armed as fully against bacilli
as against bullets with the result that the percentage
of deaths from disease was the lowest that has ever
been attained in a great war.
Dysentery in camp can be prevented largely
by boiling the drinking water. Pneumonia is to be
guarded against by combating coughs and colds.
Typhoid fever is the greatest danger and the author
cites the American troops in the Spanish American
war where one fifth of the entire army had typhoid
fever and 150 died. The danger is chiefly from
persons who have already had the disease, and who
carry the germs in their intestines harmless mes-
sages there but capable of infecting barracks or
camps. It can readily be understood how flies
lighting on the discharges of such typhoid carriers
could convey the germs far and wide. It was in
this way probably and by dust that the bacilli
were so fatal in South Africa. When it is considered
that there were 17,084 cases of typhoid fever of
which 10 454 were inveterate and 8 032 died it will
be seen that more died from this disease than from
the bullets of the Boers. It is hoped that this let-
ter record will impress upon soldiers the impor-
tance of carrying out with religious care the sani-
tary regulations.

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at short ranges the Lee Enfield bullet produced sounds on the exit side in a large number of cases which from their extent and extreme severity it was difficult to recognize as being the results of solid bullets of 0.311 inch caliber they looked as if they must have been produced by explosions within the tissues. It soon however became evident that two conditions as regards the bullet were invariably present in these cases (1) short range and therefore high velocity and (2) that it had passed through structures offering great resistance to it in these circumstances only was the explosive effect produced

M S HENDERSON

Osler W. Bacilli and Bullets. *B. M. J.* 1914 ii 569 By Surg. Gyn. & Obst.

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Osler strongly favors vaccination against typhoid stating that of 90,646 regulars in the U. S. Army in 1913 there were only 3 cases of typhoid due to this vaccination. Previous to this there had been 353 per thousand.

M S HENDERSON

Herman-Johnson F. A Simple and Rapid Method of Localizing Bullets. *B. M. J.* 1914 ii 752 By Surg. Gynec. & Obst.

The limb is placed on the table with the X-ray tube below and the general position of the bullet is ascertained by the fluorescent screen. A small metal ring is then manipulated until it encloses the image of the bullet. This place is then marked with silver nitrate on the skin. The limb is then rotated 90° and the same procedure is again carried out. Lines from these two points drawn perpendicular to the surface of the limb will meet at or in the close vicinity of the bullet.

J. H. SKILES

Pertthes G.: Indirect Gunshot Fractures. Distant Effects of Infantry Bullets on Nerve Tissue. (Über indirekte Schussfrakturen nebst einer Bemerkung über Fernwirkungen des Infanteriegeschosses auf das Nervengewebe.) *Deutsche Zeitschr. f. Chir.* 1914 cxxxii 91 By Surg. Gynec. & Obst.

In 1901 the author described a fracture of the tibia which occurred during the Pekin expedition where the bullet did not strike the bone directly, the fracture being considerably below the track of the bullet. He has never found any similar reports in the literature but has observed two apparently similar cases in the present war. He therefore shot some dead horses with dum-dum bullets to see whether he could produce such fractures indirectly and succeeded in breaking the powerful femur of a horse without striking it with the bullet.

He also describes the case of a soldier who was struck by a pointed French bullet. The bullet struck the deltoid and rotated so that its apex pointed outward. The brachial plexus was not struck but a severe motor and less severe sensory paralysis developed. No anatomical lesion could be found on laying bare the nerves. Similar distant effects are observed in the brain. Bullets may fracture the skull without injuring the dura and yet circumscribed cortical paralysis will develop.

A. COSS.

GYNECOLOGY

UTERUS

Schumann F A Tracheloplasty a New Operation for the Relief of Sterility Due to Stenosis of the Cervix Uteri *Am J Obst & Gyn* 1914
12:604 B3 2 rg Gynec & Obst.

In order to insure permanent widening of the cervical canal Schumann recommends the following operation which he has successfully performed: dilatation of the cervix with Goodell dilator to fully one and one half inches removal of a strip of tissue one centimeter wide from the posterior wall of the cervical canal extending from the internal to the external os and this strip extends through the entire thickness of the mucosa down to the muscularis. A strip of mucosa corresponding in size is then cut from the middle of the posterior vaginal wall the top of the strip ending at the summit of the posterior vaginal fornix the base of the strip being left attached. The resultant raw area is closed with catgut and the strip is then carried into the cervical canal fitted to the space prepared as described and sutured in place with catgut the undetached base of the vaginal flap furnishing it nutrition. Five to seven days later the pedicle is severed. The end result is a cervical canal having in its posterior wall a gutter of mucosa covered with flat squamous epithelium which permits the free ingress of spermatozoa no matter how great the degree of cervical spasm or stenosis may be.

N. G. B. T. H. 1914

Waldo R Amputation of Cervix for Bilateral Laceration and Cystic Degeneration Sterility Due to Ante flexion of the Uterus *J. Iowa M. Soc.* 1914
5:294 22 349 B3 2 rg Gynec & Obst.

Waldo calls attention to the efficacy of amputation of the cervix according to the method adopted by Marion Sims. This operation he maintains, is indicated in women over 40 years of age because trachelorrhaphy at that age is seldom if ever satisfactory.

In performing amputation of the cervix it is important to leave the external os considerably larger than normal because a constriction takes place the cervix contracts and there is danger of stenosis. The author has seen and reoperated upon several cases in which stenosis had occurred following amputation of the cervix.

Subsequent pregnancies do not relapse as such a cervix provided the cervical canal is not constricted too much at the time of operation. Likewise a perineum that has been properly repaired will stand the strain of delivery quite as well as or better than the perineum in ordinary primipara.

The post operative treatment in these cases is

very simple. Catheterization of the bladder may be required. Besides the usual aseptic precautions of catheterization the author recommends a 20 per cent solution of argyrol for use as a lubricant for the catheter which reduces the chances of infecting the bladder very materially. The external genitals are flushed off with a 5000 bichloride solution after micturition or defecation. At the end of a week a warm—not hot—vaginal douche is given every day. Sterile water may be used instead of the bichloride solution.

The author reports the case of a young woman 22 years of age who had been married two years and was very desirous of having children. The husband was potent as shown by a microscopical examination of his semen. Vaginal examination of this woman showed marked ante flexion of the uterus without complications. The operation of choice in this type of case is the Dudley operation. This procedure Waldo believes gives the best drainage of the uterus and the most direct cervical canal. To more certainly obtain an open straight canal the cervix should be very thoroughly dilated before this operation is performed. After this operation the patients seldom remain in bed over a week and many of them may leave earlier.

W. A. Y. B. MATTHEWS

Gibson G Uterine Cancer Experience with It at St. Peter Hospital *La. J. Med.* 1914
vol 374 By Surg. Gynec. & Obst.

The author divides uterine cancer into two clinical groups which bear no relationship to each other as to the course and behavior of cervical cancer is markedly different from that of cancer of the body of the uterus.

At St. Peter's Hospital vaginal hysterectomy by the combined clamp and ligature method was used in cases in which the mobility of the uterus was not markedly interfered with by parametric infiltration. Cautionary operations were performed on cases in which the extension was too marked to justify the hope of radical cure.

From 1893 to 1914 140 cases were admitted to the gynecological division. Of this series 55.39 per cent were beyond even palliative measures 29.3 per cent had cautionary operations 56.41 per cent had hysterectomies—53 vaginal and 3 abdominal. There was a primary mortality of 22 per cent.

Only the cases in which by terectomy was performed were investigated of these 5 were readmitted for recurrence within five years after operation. The author was able to trace 17 cases of cancer of the body and 15 of cervical cancer. Both cases of

corporeal cancer were operated on over five years ago and both are alive and well

Of the 15 cases of cervical cancer 8 were operated on over five years ago and 7 within five years. Of the 8 cases operated on over five years ago 3 did not live five years 1 lived fourteen 1 lived ten years and 3 are alive and well. Of the 7 cases operated on within five years 1 died of cancer thirteen months after operation and 1 has a recurrence at present. Five cases are well four years after operation and one two years after operation.

The author concludes that no better example could be had of the need of educating the public and the profession regarding malignant disease of the uterus and points to the fact that one should not wait for atypical bleeding but should investigate the cause of leucorrhoeal discharge. The family physician is too prone to put it aside saying that leucorrhoea is caused by female weakness.

Seufert E. von. Present Status, Problems and Limitations of Radiant Treatment of Cancer (Heutiger Stand, Probleme und Grenzen der Strahlenbehandlung der Krebses). *Si ahl nter p* 1914 740

By Zentralbl. f. d. ges. Gynaek. u. Geburtsh. d. Grenzgeb.

The success attained thus far in the treatment of uterine cancer by ray treatment is far in excess of the results secured by any other method. Only when metastases are already present is the prognosis as bad as with other methods of treatment. The enormous advance recently made in radiant treatment is due to the fact that sufficient quantities of isolated rays can be used partly through improvements in technique partly through the fact that more abundant sources of radiant energy are available and this fact makes it possible to destroy carcinoma cells electively even in the deeper tissues. The removal of toxic rays by filtration is one of the greatest advances in deep irradiation.

The extension of the limits of erythema the result of the most recent advances in technique which makes a greater hardness of rays possible is a decided advance in carcinoma treatment. The biological effect of the rays on the skin however is not entirely in proportion to their hardness but may be very different with different apparatus and must be determined by experiment. The amount of the minimum dose for therapeutic effect must be determined by the sensitiveness of the tissues to be treated and this varies greatly. Danger to the skin in many cases prevents percutaneous deep irradiation. Great caution should be exercised especially in constitutional diseases in acquired local hypersensitiveness because of the danger of late injury which may occur on repeated irradiation of spots that have formerly been exposed to röntgen rays. Care is necessary also in the radiant treatment of very young individuals. The younger the cell the greater is its sensitiveness. This seems to be true of tumors also. The greater their energy in growth the greater their sensitiveness to röntgen and similar

rays seems to be. The effect of the more or less elective radiant treatment lies in the rays themselves not as might be assumed in substances produced in the body by the rays. The deep effect is produced by sufficient quantities of hard penetrating röntgen rays or γ rays. The soft röntgen or α and β rays have not the specific elective effect of the hard rays but they seem to exercise a more uniform corrosive effect on all the tissues. There still is some doubt as to whether the biological effect is produced by the primary hard röntgen or γ rays or by their secondary rays. Still more doubtful is the value of the attempts at sensitizing to produce secondary rays or the injection of borholm to supplement the destruction of carcinoma cells.

Deep irradiation has its limitations (1) because the intensity of the rays decreases as the square of the distance, and (2) because the original strength of the rays at the surface of the body is weakened by absorption. The results of deep treatment can be improved (1) by increasing the distance of the source of the rays and increasing their intensity and (2) by hardening the rays.

The danger of stimulating the carcinoma cells must be avoided. It is not yet definitely decided whether radium and mesothorium treatment should be given the preference to röntgen rays and if so to what extent. The author weighs the advantages and disadvantages of each and comes to the conclusion that at present in the treatment of carcinoma of the uterus, röntgen rays, radium and mesothorium are all about of equal value. As for the treatment of other carcinomata there seem to be cases in which percutaneous irradiation is indicated and in these röntgen rays are to be given the preference for the necessary amounts of radio active substances for a treatment without danger are at present unattainable.

The dangers of irradiation and the possibility of avoiding them are discussed and in conclusion the results of ray treatment at Doderlein's clinic are given. Fifty four women with carcinoma of the uterus have been treated and their treatment can now be regarded as successfully completed. Among them there were 19 inoperable cases today the patients are well and are working just as they did before the disease began. OSMER

Percy I. F. The Treatment of Inoperable Carcinoma of the Uterus by Application of Heat. *Surg. Gynec. & Obst.* 1914, 22, 452.

By Surg. Gynec. & Obst.

In discussing inoperable carcinoma Percy refers to a previous paper in which the results of experimental work detailing the extent of penetration of heat into tissues from the head of an electric heating iron heated to various temperatures were given.

These experiments give conclusive evidence that with the cautery at a low temperature the cold cautery a much more extended penetration of heat of a degree destructive to the carcinoma cell is obtained. On the other hand if a high degree of

heat is used i.e. with the cautery heated to a bright cherry red all the tissues are not only burned up but the carbon core which quickly forms inhibits the further dissemination of a sufficient degree of heat to treat successfully any considerable area of malignant growth. This carbon core also tends to prevent drainage which is an important factor particularly in those cases where a large mass has been treated.

The author refers to the original and almost startling observation of Vidal that the various toxins vaccines and serums which have come out of the experimental laboratory are effective only when they cause temperature reactions after injection into the cancer.

Reference is also made to the experimental work that has been done in various laboratories both in Europe and America showing the inhibiting and destructive effect of definite degrees of heat when applied to mouse carcinoma for various periods of time. The carcinoma cell is destroyed when the temperature is raised to 44°C (111.2°F) for half an hour while the normal tissue cells are not harmed until the temperature reaches 55° to 60°C (131 to 140°F).

Emphasis is laid on the fact that the basis of the author's technique for treating uterine carcinoma is not a burning up or cauterization of the pathology as has heretofore been practiced but merely the application and dissemination of a degree of heat sufficient to inhibit the further development of the cancer-cells. When this is accomplished the small outlying isolated foci that may remain after the destruction of the original focus can be treated by any of the methods that experience has shown to be of value.

The author mentions further improvements to be made in his technique which will widen its application and effectiveness in the treatment of cavity carcinoma but he does not minimize the good results already obtained by his present method of procedure.

Child, C. P. Abdominal Panhysterectomy for Carcinoma of the Cervix Uteri. *Brit J Surg* 19:4:119. By Surg. Gynec. & Obst.

The author advocates a two stage operation. He insists on a preliminary examination under anaesthesia to make a thorough examination of the cervix itself to ascertain the mobility of the uterus the extent of infiltration along the parametrium the implication of the bladder or rectum and whether or not an operation is advisable. The case may be inoperable suitable for operation or doubtful warranting an exploratory laparotomy later. A part of the growth is removed for microscopical examination and all the growth accessible is curetted away and the raw base or cavity of the ulcer is gone over with Paquelin's cautery. In the interval preceding the major operation the patient is given vaginal douches of 1:5000 biniodide of mercury twice daily.

The second operation consists of a vaginal and an abdominal stage. The patient is first put in the lithotomy position and the base of the ulcer is again curetted and cauterized. The vagina is then dried and painted with iodine and the ulcer and vagina packed closely with a sterile swab the end of which is left hanging out. The swab is withdrawn just before the vaginal clamp is applied.

The abdominal stage is on Wertheim's lines up to a certain point i.e. the ovarian vessels are tied the round ligament is crushed the ureters are isolated and the uterine arteries are ligated. The remainder is on different lines. The author has specially constructed broad crushing clamps which are placed on the parametrium close to the pelvic wall the point reaching to the side wall of the vagina—care being taken that the ureters are clear and that a portion of the ilio pelvic colon is not included on the left side. The parametrium is then cut close to the clamps which are left on. The vaginal clamp which is constructed on similar lines is applied to the vagina which is cut across and the uterus removed. Paquelin's cautery is applied to the cut edges of the parametrium and vagina and the clamps released and removed. The peritoneum is sewed over and the abdomen closed.

The operative mortality in the author's case was 1 in 18 cases or 5.5 per cent. In no case was there any symptom of post-operative hemorrhage. He believes that the clamp method not only saves time but that it is safer than ligation. C. H. Davis.

Hamilton, J. A. G.: Dysmenorrhoea. *Med J A Austral* 9:4:211-215. By Surg. Gynec. & Obst.

The author notes that painful menstruation in young girls, especially among the leisure classes and the shop and factory girls is decidedly on the increase while dysmenorrhoea is comparatively rare among farmers' daughters and those who are either able or willing to lead a healthy outdoor life. The question is whether or not young girls are over educated to the extent that their general health is interfered with. An improper mode of life irregular hours for rest and eating insufficient exercise lack of fresh air and sun resulting in a poor development predispose the woman to a variety of pathological conditions, and as the reproduction apparatus is more delicately organized it suffers the most.

The author discusses dysmenorrhoea under two headings:

1. Dysmenorrhoea due to congenital defects.
2. Dysmenorrhoea due to acquired lesion of the uterus tubes ovaries or other organs.

In the first class the uterine dysmenorrhoea is associated with defective development of the uterus after puberty in such cases continues; a more or less infantile condition. The malformation affects the cervical canal to a certain extent causing it to be either sharply kinked or the seat of pronounced stenosis. The pain is due to the irritation from congestion the abnormal vascular tension irritates the nerves of the uterus.

In the treatment of dysmenorrhœa it is very important to remember that it is often a local manifestation of a general condition. A change in habits and of location will improve the general condition as well as the dysmenorrhœa. The mechanical treatment calls for dilatation. It is the author's practice to do this under an anæsthetic and after dilating as far as possible with Hegar's dilators the cervix is packed with a strip of gauze. This has a softening effect and in twenty-four hours the cervix is found well dilated. The uterus is then curetted and swabbed out with tincture of iodine. The entire uterus is packed with iodoform gauze which is left in for three days. This straightens out the cervix and causes the uterus to contract thus stimulating development. In selected cases good results are obtained by the use of a stem pessary. The pessary is left in for eight or ten days and the patient is kept in bed. The pessary is always removed during a menstrual period if necessary it may be reinserted after two or three months. Simpson's incision of the cervix should not be used as the scar may result in malignant disease in later life.

In acquired dysmenorrhœa the complicating lesions should be treated first. Hamilton calls attention to the long appendix which hangs down into the pelvis taking part in the pelvic congestion which accompanies normal menstruation. The congestion of the appendix is increased at each period and eventually becomes permanent. Severe pain results, which resembles interuterine dysmenorrhœa. The removal of the appendix cures the condition. The essence of dysmenorrhœa seems to be congestion. EDWARD L. CORNELL.

Coe H G. Metrorrhagia at Puberty. *A J St J Med* 9 4 xiv 43. By Surg. Gynec & Obst.

Coe calls attention to the fact that menorrhagia and metrorrhagia at puberty are conditions that have attracted very little serious scientific attention in America. He deprecates this fact and hopes his brief paper will awaken a more general interest in the subject.

There are certain cases with obvious etiologic factors such as ovarian cysts, displacements etc. but it is those cases in which careful search reveals no local or general cause that should be studied more thoroughly.

He mentions the opinions of several foreign writers in this field but thinks some of them smack more of the study than of the post mortem table or laboratory. It seems to him that too little attention has been paid to the well known intense pelvic congestion accompanying early menstruation in perfectly healthy subjects. This condition frequently becomes pathologic in degree through some impalpable or unnoted cause in children who develop rapidly and beyond their years.

Recent works of Goffe and Starbuck are particularly illuminating in any consideration of this subject and the author recommends their perusal.

While the author is far from viewing such cases purely from a gynecological standpoint and urging early resort to the physical examination of young girls he does insist that while amenorrhœa at puberty and for two or three years afterward may be treated expectantly, persistent metrorrhagia is an indication for careful recto abdominal palpation. This is best done under an anæsthetic when curettage or laparotomy if necessary may be done.

Often the family physician holds a grave responsibility in these cases. He may do much to regulate wisely the entire life of the young girl but if the case develops serious hemorrhage no prudishness or nervousness of mother or daughter should alter his judgment.

Hydrastin, atropin, styptol (gr $\frac{1}{4}$ + $\frac{1}{4}$) strychnine and alum douches have helped many cases.

E A BULLARD

Buck M J. Inversion of the Uterus. *Surg Gynec & Obst* 914 xix 487.

By Srg. Gynec & Obst.

The author describes two cases showing the success of an operation similar to that of Kehrer. The uterus was grasped by three tenacula, one on either side of the median line of the cervix and one in the fundus which acted as guys to steady or change the position of the uterus. An incision was made beginning at the vault of the vagina anteriorly extending through the cervix body and fundus of the uterus splitting the uterus anteriorly then the position of the organ is changed from a forced postflexion to an extended anteflexion by pulling it up by the fundus and down and back by the cervix then crossing the cervical tenacula thereby aiding in turning over the uterus upon itself as one would the finger of a glove aided by pressure and counter pressure.

The sutures were inserted one fourth inch from the margin of the incision and emerged short of the mucous lining and were then crossed over to the opposite side and brought out on the surface requiring in all 12 sutures 8 deep and 4 superficial. The apposition of the lips of the incision was materially aided by the tension on the crossed tenacula the right pulling to the left and vice versa.

There has been considerable difficulty encountered in getting close approximation of the incision owing to the tension from the resistant uterine tissue requiring an excision of a wedge-shaped piece of the uterus. Although this has not been the author's experience he is inclined to the opinion that the difficulty in approximation of the edges is due to taking too deep a bite with the needle in inserting the suture three fourths of the thickness of the wall being sufficient. When he inserted the sutures through the entire thickness of the uterus the approximation was not good and the sutures had to be removed and reinserted and thus, aided by the crossed tenacula kept the margins tense until the suture knots were properly tied completing a very satisfactory adjustment.

If the surface and the near surface of the incision are properly approximated one need have no concern about the deeper layers as the elasticity of the tissues will be sufficient to keep them in apposition for good union.

No difficulty was experienced in returning the uterus to the peritoneal cavity. The operation while requiring some dexterity is not to be classed in the major column; it requires less than half an hour to complete.

The shock would be of little moment if it were not for the fact that the patient is usually brought to the surgeon in a very anæmic condition.

Leclercq J and Grépin. Mechanism of Gangrenous Perforation of the Uterus. Note on the Arterial Circulation of the Uterus (A propos du mécanisme de la perforation grégreuse de l'utérus note sur la circulation artérielle de l'utérus). *Bull Soc de méd lég d F* n° 94, 21, 3.

By Zentralbl f d ges Gynäk. Geburt h d Grenzgeb.

In gangrenous perforation of the uterus the perforation opening forms the frustum of a cone with the smaller surface directed toward the cavity of the uterus. To explain this the authors studied the circulation of the blood in the uterus and found in the injected uterus which they cut through the fundus a few millimeters above the cavity in a transverse direction that the branches of the two uterine arteries formed extensive anastomoses with each other. But in the fundus the fundal branch of the uterine on each side formed terminal arteries in certain directions that did not anastomose freely with those of the other side. These findings, which were confirmed by radiographs of injected specimens explain the clinical phenomenon. *FRANKF. ZENTR.*

Nicholson W. R. A Case Report Illustrating Certain Dangers in the Use of the Intra Uterine Stem. *Am J Obst. N Y* 94, 1, 608.

By Surg. Gynec. & Obst.

Nicholson calls attention to the fact that the intra uterine stem is not without danger from the standpoint of serious resulting infection even in properly selected and previously non infected cases and gives the report of such a result in one of his own cases. All possibility of latent infection having been excluded by thorough preliminary examination the usual aseptic operative technique was employed. A satisfactory afebrile course was pursued during the two weeks the patient was in the hospital. One week later there were typical symptoms and finding of acute bilaterally infected appendages which subsequently necessitated an abdominal section and removal of the adnexal portions of one ovary and of one tube being left. The tissues contained no pus but the tubes were distorted and bound down and the oviducts were closed. The right ovary was enlarged to the size of an orange by cystic degeneration containing a bloody fluid. Preceding the attack the patient had several non sterile douches and had had intercourse. Examination of the husband proved him to be free from disease. *N. SPROUT HALL.*

Gassant H. E. Continuous Uterine Drainage. *N. Y. M. J.* 914, 7.

By S. T. Gynec. & Obst.

In 250 cases relief from the subjective and objective symptoms of cervical obstruction from various causes was secured by means of silver and fenestrated rubber drains.

The drains were inserted into the cervical canal and drainage promoted continuously for six or more months. The only unfavorable results were menorrhagia and metrorrhagia in some few cases.

The conclusions are as follows:

1. Normally the menstrual blood condenses in the passive uterus, escapes drop by drop or trickles from the os externum in a bright red intermittent stream without malaise, pain, headache or any sort of reflex manifestation.

2. Obstruction to the free outflow may be caused by fibrous cicatrization, flexure, neoplasm of any portion of the cervical canal or of the lower uterine zone.

3. Obstruction is primarily an intermenstrual condition which causes retention of mucus etc., within the uterus, retards the outflow of menstrual blood and shuts in the dangerous remnants after abortion, miscarriage and labor and gonorrhoea.

4. Obstruction excites the uterus to labor like activity, brings about hypertrophy of its wall, enlargement of its cavity, increased weight and an abnormal condition of its mucous membrane.

5. Obstruction during menstruation causes colicky cramps, labor like pains, headache and other reflex pains. Obstruction during labor causes serious dystocia, obstruction after labor induces after pains, facilitates infection and favors subinvolution, obstruction between periods—in intermenstrual—forces infection into the tubes and peritoneum and results in peritonitis, tubal gestation, hydrosalpingitis and pyosalpingitis and, by thus obstructing the tubes is the most common cause of sterility and frequently is the cause of marital infelicity leading to the divorce courts and the hospital and if the woman escapes with her life she will be compelled to live an aphonic life subsisting on the alms which the courts offer as her only redress.

6. Obstruction in young or older women can be and should be remedied by dilatation, drainage, replacement, pessary support or suspension of the uterus.

7. Continuous efficient drainage can be secured only by the use of a drain which will permit the cervical mucus to pour into the drain, mingle with the secretions and prevent clogging and plug.

8. To prevent recontracture of the internal os, reflexure of the antelexon, the drain must be of rubber, fenestrated or perforated, sutured in the cervix and must remain *in situ* for six or more months.

9. Experience teaches that excision for the removal of detached secundines or placenta curettage is unwise and can therefore be dispensed with.

ro To secure uninterrupted drainage from the uterine cavity in acute cases a gauze roll wick should be placed in the vagina with its upper end under the drain and the lower end projecting through the vulva so as to come in actual contact with the vulva pad otherwise pus will collect in the vagina and sapraemia will result D H BOYD

ADNEXAL AND PERIUTERINE CONDITIONS

Benthin W The Ovary and Internal Secretion (Ovarium und innere Sekretion) Therap d Gynäk Berl 1941 193

By Zentralbl f d ges Gynäk Geburtsh u Grenzgeb

Through its internal secretion the ovary influences the development and maintenance of the sexual system. It sends hormones to the uterus which prepare the mucosa for the reception of the ovum. These hormones cause the lack of coagulability of the menstrual blood. The formation of myomata is related to the function of the ovary and osteomalacia is chiefly caused by changes in the ovary as is shown by the results of castration in 87 to 93 per cent of the cases. Chlorosis is also dependent on ovarian activity.

Aside from its influence on the genital tract the ovary exercises stimulating or inhibitory effects on metabolism and growth. In some conditions there is a disturbance in balance between the ovarian secretion and that of other glands of internal secretion as of the thyroid in Basedow's disease and of the hypophysis in adiposities. The chief source of the internal secretion is the corpus luteum. It is questionable whether the interstitial tissues—theca luteal cells—have a vicarious or regulating action as might be suspected from the abundance of this tissue in animals that do not menstruate regularly. Results of organotherapy with ovarian preparations support these views. H SCHOLZ

Vignes H Influence of Lecithin and Cholesterolin on the Toxicity of Ova and Ovaries (L'influence de la lecitine et du cholestérol sur la toxicité des ovaires) Ann d l P M 914 xxviii 437

By Zentralbl f d ges Gynäk Geburtsh u Grenzgeb

Aqueous extract of herrings eggs heated to boiling temperature and still more the extract not heated showed a toxic effect on rabbits as did extract of pigs ovaries. The toxic effect was manifested by loss of weight sometimes progressing to cachexia and death. Lecithin and to a lesser extent cholesterolin overcame this toxic effect totally or in part. Lipoids extracted from the ovary had a toxic effect and caused loss of weight in guinea pigs after a single injection. C NELBAUER

Hubbitt C W Conservative Surgery of the Ovary A Study M J 94 xii 65

By Surg Gynec & Obst

Success in the practice of conservative surgery of the ovary comes by studying the pathological con-

dition when the abdomen is opened by possessing a thorough knowledge of the limitations for successful conservatism and in being able to follow the future histories of the cases. The principal rules which are necessary for success are

1 Good surgical judgment

2 Always leaving an adequate blood supply for the ovary

3 Supporting the ovary in as near its normal position as possible

In exercising surgical judgment the first point of importance is adhesions. Adhesions must be dissected or peeled off leaving the surface of the ovary free and as clean as possible from all inflammatory tissue but if the ovarian tissue is torn it should either be resected or removed entirely. If any inflammatory tissue is left on the ovary it will favor adhesions again and thus defeat good results.

Small cysts if few in number can be punctured and the fluid allowed to escape. Resection is indicated where a single retention cyst is present but in a cystic degeneration where the whole ovary is involved removal and not resection should be done.

Resection should be adopted also in hamatoma. In performing the resection a knife is far more preferable than scissors as the latter tend to squeeze or pinch the ovary unless they are very sharp. All the diseased structure should be cut away and with very fine catgut and a small needle the raw areas should be brought together by a continuous stitch as this controls the bleeding more satisfactorily than a few interrupted sutures for with continued oozing a hematocoele and infection and adhesions may result.

The suspending of the ovary is a simple but important matter it probably keeps it out of its old bed of adhesions. A small needle with silk or catgut is passed through the external end of the ovary and then through the posterior surface of the broad ligament near its upper part.

Maintaining a normal blood supply to the ovarian tissue left is of the utmost importance. Neglect in this respect is the cause of many failures following conservative work, and oedema and cystic degeneration develop. The blood supply of the ovary is easily interfered with unless care is taken in placing ligatures in all operations where the ovary is to be left. In salpingectomy—cutting the tube from the mesosalpinx—care should be used to incise the mesosalpinx through its extreme upper border. This will leave the blood supply of the ovary normal and the mesosalpinx will be satisfactory for ovarian suspension.

All rough handling and traumatism of the ovary during the operation should be avoided and absolute asepsis and hæmostasis should be secured to make the work a success. LOW RD L CORRELL

Gordon A Nervous and Mental Disturbances Following Castration in Women J Am V As 1914 14 345 By Surg Gynec & Obst

The author observed a series of 112 cases in the majority of which the ovaries alone were removed

the others had both ovaries and uteri removed. In 37 cases oophorectomies were performed through errors in diagnosis. An analysis of his cases permitted him to reach the following conclusions:

Removal of the reproductive organs in women causes disturbances in the domain of the nervous system. These disturbances were of a purely functional nature. They were somatic and psychic.

The psychic manifestations while individually they belonged to any of the varieties of psychoneuroses nevertheless in their ensemble did not constitute any of the well established forms of psychasthenia.

True insanities were not observed.

The generally observed symptoms were restlessness with a tendency to move from place to place, difficulty of control, dissatisfaction with everything and everybody, discontent, want of interest in all absorbing subjects and objects, indifference, indolence and pessimism. Sometimes there were outbreaks of anger with a tendency to attack others. Among other symptoms might be mentioned insomnia, gastro-intestinal disturbances of a functional nature, headache, vague pains or paresthesias also occasionally glycosuria, tendency to obesity was also observed in some patients.

While the psychic manifestations were sometimes of a very disturbing nature nevertheless they did not present the characteristics of genuine psychoses, for example the indifference and want of interest in surroundings lacked the depth of those afflicted with melancholia or dementia. The restlessness which was so frequently observed lacked the characteristic features of exaltation in the motor sphere observed in cases of mania. As mentioned above while the individual symptoms resembled those of psychoses the entire picture of each case lacked the depth and definiteness of any of the forms of insanity. Some of the patients had to be removed from their surroundings and isolated not because they were insane in the proper sense of the term but because of inconveniences caused by them to others. Besides the subsequent histories of the last category of patients, as well as of any other patient of the author's series, proved at no time the existence or eventual development of true psychoses. On the other hand morbid phenomena persisted with a remarkable obstinacy at times they became more accentuated at others some improvement was noticeable but it was only temporary. Some of the author's patients were under observation during a period of ten years and the condition still persisted unaltered.

Individuals who presented various manifestations of psychoneuroses before they fell into the hands of surgeons had their psychic phenomena decidedly aggravated after the uteri and ovaries or only the ovaries were removed.

As healthy portions of tissue were invariably found in the removed organs it is to be supposed that the removal of the latter had some relation to the morbid phenomena observed after the operations.

The logical conclusion seemed to be that great

caution should be used in advising operative procedures on the generative organs and the tendency should be to preserve as much as possible any normal tissue found in the uterus or ovaries.

No operation should be advised on healthy organs if a woman complains of vague nervous disturbances.

EDWARD L. CORNELL.

Vest, G. W.: A Clinical Study of Primary Carcinoma of the Fallopian Tube. *Bull. J. Hopkins Hosp.* 1914, xxv, 305.

By Surg. Gynec. & Obst.

The author presents a statistical study of 132 cases of primary carcinoma of the fallopian tube, including 4 such cases from the gynecological department of the Johns Hopkins Hospital. His own cases are reported in detail and include macroscopical examination of the tissue removed. From his study he draws the following conclusions:

Primary carcinoma of the tube while not common is not as rare as has been supposed and its possibility must be considered when a tumor lateral to the uterus is present.

Definite symptoms are not regularly associated with the tumor but one or more of the following are usually present: a watery often blood tinged vaginal discharge, abdominal pain and induration on one side of the uterus, frequently a tumor is present. The discharge may be intermittent in character. Each tube is involved an equal number of times by the growth while in about 28 per cent of the cases both tubes are involved.

If the condition is still confined to the tube a complete operation—hysterectomy double salpingo-oophorectomy—should be done otherwise only palliative measures can be employed. A careful macroscopic and if necessary microscopic examination should be made of every tubal tumor removed before the abdomen is closed. In some cases the complete operation was done at a second laparotomy after the nature of the growth was discovered.

A microscopic examination should be made of a serohemorrhagic fluid obtained from a lateral tumor by pelvic puncture. Such a tumor should be considered malignant until proven otherwise.

Primary carcinoma of the tube may be present in association with an ovarian cyst.

The tumor is of a high grade of malignancy. At onset it may be of slow growth but recurrence is soon noted after operation. In most cases the condition is too far advanced for permanent relief when surgical aid is sought. Only 4 patients are known to be well five years after operation.

GEORGE L. BEISWY.

EXTERNAL GENITALIA

Watkins, A.: Vesicovaginal Fistula. *J. A. Soc.* 1914, 94, 95. By Surg. Gynec. & Obst.

The author describes a vesicovaginal fistula which followed vaginohysterectomy. The bladder

wound was unsuccessfully repaired at the same sitting at which the injury was done. This failure the author attributes to deficient drainage from the urethral catheter left in at the time of operation.

Some months later repair was again attempted. This operation was again unsuccessful on account of urethral irritability requiring the removal of the catheter left in the bladder. About thirteen months after the primary fistula occurred still another attempt at closure was made. This was preceded by bladder irrigations for the cystitis and suprapubic cystostomy for drainage.

The bladder was denuded by the original route for one and one half inches in all directions and the bladder wall was sutured with two layers of No. 0 chromic gut. This suture was covered by a peritoneal fold from the abdomen followed by suture of the vaginal mucosa. The closure was successful. The author believes that the suprapubic drainage and the interposition of the rapidly healing peritoneum were important elements in the successful outcome of the last operation. M. W. J. GELVIN

Pollard T. G. Some General Considerations of Leucorrhoea. *South Pract.* 1914, 1:444.
By Surg. Gynec. & Obst.

The author discusses the causes and treatment of leucorrhoea. He is of the opinion that this condition is too often considered as a disease and not as a symptom of a disease. He discourages the belief of the laity and a few practitioners that leucorrhoea is common to all women and says because of this idea many early cases of uterine cancer have been overlooked.

The most frequent causes of leucorrhoea in virgins are (1) cervical erosion and backward displacement of the uterus associated with endometritis (2) vaginitis and (3) benign and malignant tumors of the uterus and adnexa. If the discharge is slight in amount and only occurs at intervals at or about the time of menstruation and is not accompanied by menstrual pain with the general condition of anaemia present for the time being the physician is justified in regarding anaemia as the cause.

In married women, because of the greater ease in making thorough examination the cause should be studied more carefully. The following causes are given: (1) Cervical erosion associated with an endometritis, the erosion most likely being situated at the site of an old laceration. The discharge may be of a simple mucous character composed of secretion from cervical glands or purulent due to bacterial invasion. (2) Infection of Bartholin's glands may be another cause. (3) Vaginitis is another cause and may result from the use of pessaries or strong antiseptics. (4) New growths of the uterus, sarcoma and carcinoma are the other causes.

The first thing to do is to locate the most probable cause of the trouble, then palliative treatment should be used such as hot vaginal douches or vaginal applications in the milder forms of vaginitis and slight cervical erosions. If endometritis is

present curettage is indicated. Lacerations should be repaired and uterine displacements corrected. If the leucorrhoea is due to trouble in the tubes malignant disease of the uterus or sloughing tumors operative treatment is necessary.

WILLIAM D. PHILLIPS

Tausaig, J. The Prevention and Treatment of Vulvovaginitis in Children. *Am. J. Hyg.* 1914, vol. 480.
By Surg. Gynec. & Obst.

The author reports 66 cases of vulvovaginitis ranging in age from 3 weeks to 12 years. Forty three of these cases were investigated as to home conditions and possible sources of infection.

Concerning the prevalence of this condition Seippel estimates that 500 cases occur annually in Chicago and Pollock estimates 800 to 1,000 in Baltimore. Jeans examined routinely 267 girls over one year of age at the Children's Hospital, St. Louis and found 14 cases or 5.3 per cent.

Gonococci were found in 63 per cent of the 66 cases at some time so that for practical purposes vulvovaginitis means gonorrhoea. The exposed position of the vulva of young girls and the delicate squamous epithelium of the vulva and vagina render them especially liable to infection.

The source of the infection was most commonly from other girls of the same age already infected. Direct infection from an adult is the exception.

The manner of the transmission may be by the hands of the attendant, cloths, clothing, etc., the bath and the lavatory particularly of the schools. The latter is by far the most common due to the fact that the vulva of the girl almost invariably comes in contact with the lavatory seat where the secretion containing gonococci will remain for a long time undried and virulent.

The symptoms were few and complications infrequent.

The treatment consisted of the injection of 15 to 60 drops of a silver solution several times in succession from a blunt pointed urethral syringe, rest in bed for the first two weeks with injections of 25 per cent argyrol once or twice daily changing to 1 per cent silver nitrate solution and later to 2 to 4 per cent silver nitrate twice and finally once a week. The treatment must be carried out systematically for a long time.

For institutions the following suggestions as to prevention are made:

1. The examination of a vaginal smear from all girls before admission to determine the presence of gonorrhoeal infection. If present the children should be excluded.

2. Adequate facilities for isolating institutional cases with this infection in which the diagnosis had not been made on admission.

3. Special nurse, separate fever thermometers, vaseline, etc. for the infected children.

The large number of endemic cases in all the cities are most difficult to reach. The following measures are suggested for the control of this disease:

1. The instillation of a drop of a per cent silver nitrate solution in the vestibulum vagina of all newborn girls whose mothers show evidence of gonorrhoea.

2. Making vaginitis in children a disease reportable to the Board of Health.

3. Instruction of parents of infected children through the visiting nurse regarding preventive measures to limit the infection.

4. Investigation by the visiting nurse as to the probable origin of the infection in each case with a view to preventing the contamination of other children in the same house.

5. The adoption of a U shaped seat with low bowl and other precautionary measures to prevent the spread of infection through the public lavatories in schools playgrounds comfort stations and tenements.

The last is the most important of all as in the author's experience the lavatory seat in the school seemed to be the great source of the infection.

S. A. CHALPENT

MISCELLANEOUS

Newman D.: Incontinence of Urin in Women.

Lancet Lond. 9. 4. 1922. 940.

By S. R. Gynec. & Obst.

The most common causes of simple incontinence of urine in women—that is loss of control unassociated with disease of the bladder or the urethra—are injury received during parturition and overdistention of the urethra and neck of the bladder by instruments. There are other cases where no history of traumatism can be discovered. The former are more amenable to surgical treatment than the latter but even these may be much improved by the following operation.

With the patient either in the lithotomy or in the elbow knee position the posterior wall of the vagina is depressed so as to expose the anterior wall fully. The bladder is distended with 12 ounces of boric solution. A straight No. 14 steel bougie with a knob the size and shape of a horse-bean half an inch from its point is introduced into the bladder at first fully and then partly withdrawn so that the knob comes down to and locates the neck and by elevating the handle of the bougie the knob is made to throw out the posterior wall of the bladder immediately above the sphincter. Three sutures one anterior and two lateral are now passed through the lips of the os and the uterus is dragged downward so as to give a clear view of the anterior wall of the vagina.

A median vertical incision is made from the uppermost point of the knob and along the middle of the stem for a distance of one and a half to two inches. With blunt-pointed scissors cutting on the flat the mucous membrane and muscular coats of the vagina are carefully separated on both sides of the median incision. The dissection should be made right down to the submucous tissue of the

bladder and urethra but great care must be taken not to expose the vesical mucous membrane itself. The vaginal mucous membrane is removed over a lozenge shaped area the center of which corresponds with the position of the most prominent part of the knob of the bougie the upper angle is just over the point of the instrument. The lower angle corresponds with the stem while the two other angles point outwards one on either side. Incisions are then made to join the apices and a lozenge shaped portion of vaginal mucous membrane is removed exposing a corresponding area of raw surface the floor of which covers the neck of the bladder and the first half inch of the urethra.

The next stage of the operation is the suturing the bougie still being in position. The sutures are chromic catgut and are introduced as follows. A deep row is planted and on the left lip of the wound the needle is passed from left to right it enters immediately under the vaginal mucous membrane and comes out one eighth of an inch to the left side of the center line of the bougie it is then carried over the raw surface to one eighth of an inch beyond the right side of the bougie where it penetrates the tissue and is brought out on the right lip of the wound. Six sutures are passed in this way. The bougie is then withdrawn and the sutures are tied cut and buried. A second row of the fine gut sutures is applied to unite the margins of the wound in the vaginal mucous membrane and the operation is completed.

No special after treatment is required except that it is well for a small sized rubber catheter to be retained for the first six or eight days and the parts should be cleansed gently twice daily.

EDWARD L. CORBELL

Lydston G. F.: Implantation of the Generative Glands and its Therapeutic Possibilities.

J. A. M. A. 9. 4. 1925.

By S. R. Gynec. & Obst.

The sex glands the testicle and ovary are known to have a double function (1) the ordinary procreative function and (2) the production of an internal secretion.

The repletion of the internal secretion may possibly have a marked effect in the retardation of senility. Aberration of secretion in the sex glands may have an effect (1) on nutrition in general (2) on brain and nerve integrity (3) on sex power and activity and (4) on senile pathology and physiology.

The presence of an internal secretion of the testicle was first shown in 1849 by Berthold who transplanted the testes of cocks to the abdominal cavity with resultant preservation of sex qualities. Since then cases of successful implantation of testes and ovaries in animals and human beings have been reported. Bernard in 1889 at the age of 71 injected himself with testicular extract from animals with marked improvement in physical and mental activity.

The name hormone is given to the substance in the internal secretion which affects the functions of other organs. Continuous doses of some hormones are necessary to maintain physiological activity. Hormones do not produce antibodies; their therapeutic effect being the result of a stimulating tonic action on the organism in general. The ova and spermatazoa apparently depend upon the stimulus produced by the hormone for their formation and vitality. In the ovary the corpus luteum furnishes the internal secretory hormones.

In the testicles the interstitial cells of Leydig situated in the interstitial tissue between the tubuli seminiferi and of mesodermic origin apparently furnish the internal secretion. These cells have been shown to proliferate in implanted testes. The X-ray does not destroy the interstitial tissue but does destroy the glandular tissue and as the effect of the X-ray is to destroy the spermatazoa producing function of the testes but does not affect the secondary sex characteristics it is considered a proof of the source of the internal secretion in the interstitial cells.

The author obtained the testes from an 18 year old suicide removing them in an aseptic manner and placing them in sterile salt solution. He made an incision in his own scrotum and planted one testicle previously half decorticated and with the epididymis removed, in a pocket made beneath the deep fascia at the bottom of which pocket lay the spermatic cord. The decorticated portion apparently took and the author experienced a sense of unusual physical and mental vigor.

If atrophy occurs, successive implantation may be used but the author believes the effect may be permanent because the interstitial tissue may remain and produce the hormone and also the hormone may have accomplished its work of regeneration so successfully that no further therapeutic action for hormone action will be evident.

In implanting the testes the tunica propria is left intact except for two to four narrow strips two or three mm in breadth running the whole length of the testicle which allow the entrance of the nutritive juices and the formation of vascular adhesions. The epididymis should be removed, the gland implanted within 24 hours after removal if possible and meanwhile kept in cold normal salt solution or Ringer's solution. Asepsis should be absolute and the testes handled very carefully. The most favorable site of implantation in the male is near the testis just without the tunica vaginalis to which it will adhere. The pelvic peritoneal space or the mons veneris may be used. In the female the choice of sites appears to be the peritoneal space, the cul de sac of Douglas (extraperitoneal), the labium majus beneath the mammary gland in the pubic region or the rectus muscle.

In implantation in either sex care should be taken (1) to make as limited an incision as is compatible with the insertion of the gland as the gland is soft and the skin and fascia elastic a very

small incision will suffice (2) to make sure that the dissection of the pocket shall be as dry as practicable and to traumatize the tissues as little as possible (3) to avoid injuring the delicate gland tissue during its preparation and implantation (4) to use the finest chromic gut or better perhaps iodized gut and insert no more sutures than are actually necessary to a perfect closure — the purse string suture for the fascia is ideal (5) at all times to avoid rough manipulation of the implanted glands during healing and especially to manipulate it as infrequently and as gently as possible while adhesions and a vascular supply are forming.

Definite results should not be expected before six or eight weeks. The glands to be used should be obtained from subjects free from disease with the possible exception that in the treatment of tuberculosis the gland may be taken from a person suffering with tuberculosis provided the gland itself is not infected.

Six case reports of implantation are given including the one the author performed on himself one for nervous wreckage due to a pelvic operation performed fifteen years previous one for impotence in a man aged 58 two for dementia praecox and one for senile dementia.

In addition to the reported cases 12 operations had been performed on institutional cases — 2 females and 8 males 3 being cases of senile dementia 2 cases of dementia praecox 2 of epilepsy and 3 of general paresis. None of these latter cases were very successful.

The results of the author's implantation on himself were a sense of exhilaration within twenty four hours which disappeared with the occurrence of oedema and inflammation around the site of the operation and recurred on the seventh day when there arose a sense of stimulation an ability to endure physical and mental labor on less sleep than formerly a marked reduction in blood pressure with a softening of the arteries a disappearance of previous attacks of cardiac irritation an increase in the range of accommodation of the eye a marked improvement in the blood circulation in the skin with resulting resistance to cold and marked improvement of a chronic skin lesion. There was an increase of ten pounds in weight.

The conclusions are as follows:

1. At least temporarily probably permanently and indubitably therapeutically successful total or partial implantation of human sex glands in both male and female is practicable.

2. Glands taken from the living subject are most desirable though rarely obtainable. The closer the blood relationship of donor and recipient the better but such relationship is not necessary for purely therapeutic purposes.

3. Judging by his own auto- and hetero experiments and with due respect to Carrel's observations the author believes that while glands frozen before decomposition may be available they must be used without freezing and very promptly after removal.

from the body to obtain a fair average of successes. Glands taken from the healthy dead body at any time prior to the beginning of decomposition are of equal therapeutic value to those taken *in vivo* if implantation succeeds. Portions of glands are to a certain degree therapeutically serviceable according to conditions and dose.

4 Where there is no necessity of incurring risk the subject from which the glands are taken should be selected with extreme care.

5 The ovary and the testis probably are alike in their susceptibility to implantation both from the living to the living and from the dead to the living. If any difference exists it seemingly is in favor of the ovary. In human beings the gland of one sex is transplantable upon the other and it is possible that the hormone of the one is useful to the other. Lydston's experiments apparently show that the tissues of the female are more hospitable to the implanted male sex glands than are the tissues of the male.

6 The benefits of implantation probably accrue irrespective of the site of the implantation but the vicinity of the peritoneum (*extra abdominal*) in the female and of the tunica vaginalis in the male are the sites of election.

7 The internal sex gland secretion is stimulant, nutrient tonic and reconstructive and should increase resistance to disease. Certain chronic infections notably tuberculosis, serious anemia, neurasthenia and conditions of profound debility should be benefited by implantation.

8 The development of senility possibly can be retarded and longevity increased by internal sex secretion derived from implantation. The climacteric may be postponed by it or the disagreeable features of the climacteric relieved.

9 Used at a very early period in the disease internal sex secretion should theoretically be the logical remedy for dementia praecox and allied conditions.

10 The internal sex gland secretion by implantation has a very useful field in the treatment of impotence in the male.

11 Implantation (with or without *nastomosis* in the male) possibly may have a certain range of usefulness in sterility in both sexes.

12 Defective and aberrant psychical or physical sex development and differentiation — inverts and perversions — are definite indications for sex gland implantation. Certain cases of cryptorchidism and imperfect testicular development are an especially promising field for it.

13 Chronic diseases of the skin due to or modified by nutritional disturbances — notably certain types of chronic eczema, psoriasis and ichthyosis — in a certain proportion of cases apparently are likely to be benefited and possibly cured by sex gland implantation.

14 That arteriosclerosis will in its early stages be benefited by sex gland implantation is probable. Inferentially if taken early senile dementia possibly may show beneficial results.

15 All conditions incidental to sex gland mutilations in either sex afford a positive indication for sex gland implantation. The probability of benefit being inversely as the length of time that has elapsed since the mutilation and dependent on the age at which it occurred.

16 The most important point of all is that in properly selected cases successful implantations ought inevitably to increase physiological efficiency with all the benefits accruing therefrom. With increased physiological efficiency come individual and social efficiency.

17 Opportunities should be sought in the human subject for histological study of implanted glands at varying periods after implantation to determine in what degree both generative and internal secretion gland tissues endure.

18 Every effort should be made to so amend our laws that viable tissues of all kinds notably internal secretory glands shall become available to science. To this end the public especially should be made to understand that the sacrifice of a portion of thyroid or of a single ovary or testis by a living

body is not disastrous. The author believes that possibly there are times when such a sacrifice would restore reason perhaps even save life.

Legislation of public sentiment should favor scientific research. Between the vivisectionists on the one hand and popular reverence for the dead human body on the other the material is limited. Why should there be a want of material which if properly used possibly might add much to the health, happiness, efficiency and even to the longevity of the human race? Let us strive for the conservation of biological energy.

D. H. BOYD

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Moore B: The Management of Pregnancy and Normal Labor *J W As Soc* 9 4 iv 173
By Surg Gynec & Obst

In a short paper the author brings out the following points. The care of the pregnant woman should commence as soon as the patient has reason to believe that she has conceived. The patient should be made to feel that her condition is normal and physiological. Her mental surroundings should be as cheerful as possible. Labor should take place certainly not later than 282 days after conception. Labor should not be checked after it has been started. The use of obstetrical forceps should be avoided if possible.

EDWARD L. CORNELL

Sutcliffe L. E.: A Case of Ruptured Ectopic Gestation Complicated by Splenomedullary Leukemia *B M J* 1914 ii 370
By Surg Gynec & Obst.

The case reported presented a splenomedullary leukemia with a marked and prolonged pyrexia complicated by a ruptured ectopic gestation with marked shrinkage of the spleen coincident with the hemorrhage and later pleenic enlargement during the reactionary stage. The patient made a complete recovery.

D H BOYD

Myers R. D.: The Diagnosis of Extra Uterine Pregnancy: a Study of One Hundred and Sixty Eight Cases *St L J M J* 1914 vi 458
By Surg Gynec & Obst.

The author presents a review of the cases occurring in the Mayo clinic during the past ten years. Attention is directed to the diagnosis of the subacute and chronic cases the clinical picture of which differs somewhat from that of the recently ruptured cases.

A history of miscarriage was obtained in 50 of the cases while 60 had never been pregnant. Four cases had previously been operated upon for extra uterine pregnancy. One hundred and 12 cases were diagnosed correctly before the operation. Of the remainder chiefly tubal moles and abortion the diagnosis was made variously as pelvic tumors, appendicitis, pelvic inflammation and gonorrhea while in a few cases exploratory section was advised for pelvic and abdominal conditions with no suggestion of ectopic pregnancy.

As to symptomatology pain was the most common feature while pain in the rectum or painful defecation if present was almost pathognomonic. Turbulence of menstruation would be considered with amount color and consistency and con-

tinuance of the flow. The physician should not be misled by the presence of chills and fever with symptoms of pelvic disorders.

PHILIP F WILLIAMS

Farber E. M.: A Case of Extra Uterine Pregnancy with Prolonged Retention of the Fetus. *Lancet* Lond 1914 clxxxvii 704
By Surg Gynec & Obst

Farber gives a detailed history of a case of missed tubal abortion which occurred in the Zenana Mission Hospital Bhiwani Punjab. Since the size of the fetus is not stated in the report it is difficult to determine whether this was a case of missed labor or not.

The patient was operated on about 3 months after she became pregnant. The foetal sac was not entirely removed at the operation on account of its being densely adherent to the intestines and the pelvic organs. The edges of the sac were ruptured to the lower angle of the abdominal wall and the cavity was drained. Recovery followed there being a slight fever in the beginning of convalescence.

FRITZ SCHWARZ

Olow J.: Treatment of Extra Uterine Pregnancy Interrupted in the Early Months (Über die Behandlung in den früheren Monaten unterbrochen Extrauterinschwangerschaft) *M Misch f Gb h Gynäk* 19 4 21 305
By Surg Gynec & Obst

Even in acute cases of ruptured extra uterine pregnancy some authors advise expectant treatment for they hold that if the patient does not die immediately she is apt to survive without operation it being therefore unnecessary. Even among those who admit the advisability of operation there is a dispute as to whether it should be immediate or deferred. Many American physicians advocate the latter plan. Others hold that each case should be treated individually which is equivalent to expectant treatment with later secondary operation. When it comes to the chronic cases there are still more operators who advocate late operation or none at all.

Olow advises immediate operation as a rule in all cases. He believes that intraperitoneal hemorrhage from any cause indicates immediate operation. As to the individualistic treatment it is impossible to decide which cases will recover if left alone.

Those who advocate of deferred operation do not wish to operate in shock but Olow believes that shock in extra uterine pregnancy is generally due to anemia and that it will therefore increase rather than de-

crease In the chronic cases the patient is always in danger of renewed hemorrhage if operation is not performed and this danger more than offsets the advantage of waiting for recovery from the anemia of the first hemorrhage

To demonstrate the advantages of operation over individual treatment in chronic cases Olow compares his material of 64 cases with that of von Scanzoni who advocates individual treatment Comparison of the figures shows that the results of operation are fully as good with reference to life capacity for work and for conception etc and are much better with reference to the time required for recovery

A Goss

Vértes, O Pathogenesis of Eclampsia (Z Pathogenese der Eklampsie) *Wochenschr f Gebn u Gynäk* 1914 1 466 By Surg Gynec & Obst

Vértes performed a series of experiments which show that animals can be sensitized by their own albumin as well as by foreign albumin The symptoms of this hypersensitiveness are practically identical with those of eclampsia and moreover the organs of the animals showed the same changes post mortem as are found in the organs of patients who have died of eclampsia he therefore believes that eclampsia is a manifestation of anaphylactic shock This anaphylaxis is produced by the absorption of chorionic villi which Schmorl has shown takes place during pregnancy The albuminuria of pregnancy is not a simple mechanical disturbance of kidney function nor yet a chemical one caused by the products of fetal metabolism but is a premonitory stage of eclampsia which is identical with it in etiology and is only a more advanced stage of the same condition

A Goss

Farr, C. B. and Williams, P. F. The Total Non Protein Nitrogen of the Blood in the Toxemias of Pregnancy *Am J Obst & Gynec* 1914 10 64 By Surg Gynec & Obst

To their previously reported findings in a series of 20 pregnant women Farr and Williams now add their results in 5 normal cases and 15 cases showing some renal changes or toxic symptoms during pregnancy The method employed was that of Folin and, in a few instances titration according to Kjeldahl, in addition to the use of the Dubosq colorimeter An exact tabulation of their findings is given The following are their conclusions

As a rule the total non protein nitrogen of the blood does not exceed 30 mg per 100 ccm of the entire blood in a normal pregnancy In those pregnant women who have renal changes associated or not with toxic manifestations as convulsions there is usually a slight and in most cases a definite increase in the non protein nitrogen but the increase bears no relation to the severity of the symptoms This degree of retention corresponds to that seen in parenchymatous nephritis as shown in the work of Farr and Austin The amount of phenolsulphonephthalein eliminated varies with

the clinical picture so much that it does not appear to be of much value either as a diagnostic or prognostic aid in the toxemias of pregnancy The authors feel forced to conclude that the close observance of clinical phenomena the estimation of the blood-pressure and the examination of urine for albumin and casts are of greater importance than the use of either of the two newer methods they have employed

Anders, E. Artificial Termination of Pregnancy and Sterilization at One Operation (Unterbrechung der Schwangerschaft u d Sterilization auf abdominalem Wege i einer Sitzung) *J f Gebn u Gynäk* 1914, 21 443 By Surg Gynec & Obst

In cases in which abortion is absolutely indicated as in advanced tuberculosis severe heart disease with failure of compensation and severe chronic kidney disease sterilization should be performed at the same time for it is useless to subject the woman to the dangers of repeated pregnancy and abortion and there is no hope of the condition improving so that a later pregnancy could be allowed to continue

Anders formerly terminated the pregnancy by the vaginal route and then sterilized through the abdomen but he has found that asepsis is more easily preserved by performing both operations at the same time abdominally The uterus is opened the contents removed and the uterus thoroughly curetted through the incision then about 3 cm of each tube is resected at the uterine end This is preferable to complete excision of the tube because it is not necessary to ligate any of the large vessels and consequently there is less danger of thrombosis Excessive hemorrhage from the uterus is prevented by previous injection of ergot There has been less hemorrhage with this method than with vaginal abortion The author has operated in fifteen cases in this way with good results

A Goss

Rabinowitz, M. End Results of Criminal Abortion *Am J Obst & Gynec* 1914 10 808 By Surg Gynec & Obst

Three abortion cases are reported In the first a silk bougie was forced through the uterine wall into the peritoneal cavity necessitating a laparotomy for its removal In the second a portion of the mesentery had been torn from its attachment to the ileum with resulting gangrene of that portion, complicated by an inflammation of several coils of intestine in the mesenteric laceration In the third case septal peritonitis with volvulus and death occurred

The death rate from criminal abortion in hospital practice is estimated as 33.3 per cent The present methods of dealing with abortion are considered inefficient Social ostracism and legal penalties do not seem to prevent the evil The legalization of the early interruption of pregnancy is considered the solution of the difficulty Then the ethical surgeon swayed by the same motives that

govern all his actions will use proper discrimination moral suasion whenever possible and as a last resort at least render his patient proper and scientific services safe from chronic invalidism or death

D H BORN

Wright G. A.: Spontaneous Rupture of Four and One-Half to Five Months Gravid Bicornate Uterus Operation Followed by Conception of the Other Horn *West M Acc* 9 4 vi 213
By Surg Gynec. & Obst.

A case is reported which showed the signs of abdominal hemorrhage rather markedly. The patient was operated on after her general condition was slightly improved. The abdominal incision disclosed a bicornate uterus the left horn was ruptured the fetus and placenta were in the abdominal cavity. The pregnant cornua with the tube and ovary were removed and the patient recovered without any complications.

Twenty months later the patient was delivered of a healthy child after a normal short 6 hour labor. The breech presentation occurring at this delivery is explained by the author as a result of the changes of the musculature of the uterus due to the above mentioned operation.

EMIL SCHWARTZ

Geelmuyden H. C. Diabetes and Pregnancy (Diabetes og gra id tet) *Nor k U g i Lægen* d sk 9 4 lxx 47 By Surg Gynec. & Obst.

Geelmuyden comments on the connection between the functioning of the internal female genital organs and carbohydrate metabolism saying that glycosuria develops regularly in about 0 or 2 per cent of all pregnancies—some have encountered it in 40 per cent. Usually the sugar in the urine in this benign pregnancy glycosuria is lactose but it may be grape sugar or both. The proportion of sugar in the urine may be so large as to suggest severe diabetes with acidosis. Different points are its onset during the pregnancy its independence of carbohydrates in the diet and the absence of polyuria and excessive thirst. He has known instances of these latter symptoms polyuria thirst and pruritus occurring with unmistakable pregnancy glycosuria.

Knowledge that the urine was free from sugar before the pregnancy is a great help also finding that the acidosis does not fluctuate with the intake of carbohydrates. A normal or subnormal proportion of sugar in the blood sustains the assumption of the benign form. If actual diabetes is suspected the diet must be very carefully regulated as there seems to be a special liability to acidosis and coma in pregnant women.

A Goss

Burke R. A. The Association of Cholelithiasis and Pregnancy *J U k St M Soc* 9 4 599
By Surg Gynec. & Obst.

Burke reports 4 cases of gall stones complicating pregnancy 3 operated on during the pregnancy

with good recovery and 1 operated upon during the puerperium with death due chiefly to previous hemorrhage.

The following conclusions are reached

1 Gall stones are most frequent in women the age ranging from 18 to 32 years.

2 From the cases cited it is evident that child bearing has a direct effect on gall stones.

3 In the above series of cases the onset of the attack was from the second to the fourth month.

4 Chills elevation of temperature and jaundice of a severe type are frequent.

5 In 3 cases the operation was performed without disturbing pregnancy the mortality being nil whereas the case that went the full term with attacks of colic chills and fever followed by jaundice and the operation was performed after delivery had very little chance of recovery.

6 There is no more danger of an operation for gall-stones interrupting pregnancy than any other abdominal operation performed during gestation. The diagnosis of cholelithiasis during pregnancy and the puerperium will not be difficult if the possibility of the complication is borne in mind. Much reliance can be placed upon the jaundice which is more prevalent in the pregnant woman than in the non-pregnant woman with gall stones.

D H BORN

LABOR AND ITS COMPLICATIONS

Southwick, G. R. The Relief of Pain in Normal Labor and a Brief Consideration of Twilight Sleep *N Eng M Gaz* 914 xl 527
By Surg Gynec. & Obst.

In an effort to relieve the pain of labor without detrimental loss of consciousness and voluntary effort 1 400 solution of novocaine with adrenalgin and quinine and urea hydrochloride were injected at the sides of the cervix uteri and in the perineum on either side near the pudic nerves, to block off the transmission of pain through these nerves. The results were good in the second stage of labor and there were no untoward results from either solution.

Pain in the first stage of labor is relieved by the use of chloral hydrate 20 grains in a starch enema and five three drop doses of tincture of gelsemium every half hour. Nitrous oxide and oxygen administered during the second stage by a competent anesthetist is commended.

Narcophin a derivative of opium of slower action but longer duration than morphine is said to diminish pain of labor 50 per cent.

Narcophin and scopolamine are the drugs used in Twilight Sleep. A single dose of narcophin is given followed in one hour by 1 to 250 gr of scopolamine injected deep in the lumbar or gluteal muscles. The patient is kept in a quiet darkened room. Memory tests are repeated at hourly intervals. Sufficient scopolamine given to keep the patient slightly amnesic. Labor may be slightly prolonged but in the second stage forceps may be employed or pituitrin given if necessary. Many women have

safely given birth to healthy children without memory of labor by the use of this method

D H BORD

Malcolm J D: Rupture of a Dermoid Cyst into the Cervix Uteri During Delivery. *Cl J* 9 4 xlv 590 By Surg Gynec & Obst

Malcolm reports the case of a woman who during her tenth puerperium developed a mass in the pelvis accompanied by fever and discharge. A vaginal incision showed large amounts of pus. Two years later the discharge from the cervix became more intense then matted hair came out and digital examination revealed a cavity filled with hair and soft masses, communicating with the cervical canal. At the abdominal incision a cyst was seen originating from the left ovary. The entire tumor with the uterus and the tube was removed. Recovery followed. The age of the patient—44 years—justified the removal of the uterus. ERIC SCHWARTZ

Smith, A. High Forceps and Cesarean Section. *J M Ass Gc* 9 4 1 143 By Surg Gynec & Obst

Since the time of the Chamberlens in 1735 obstetric forceps have been one of the greatest aids in effecting difficult deliveries though they often leave much to be desired and compare badly with cesarean section where mechanical difficulties of delivery are great as the following examples show.

In the first case that of a primipara aged 19 the following conditions were present: vertex L.O.P. true conjugate 8.25 cm. labor in progress twelve hours head not engaged membranes ruptured, cervix almost completely dilated artificially temperature 99 pulse 96 child large. Cesarean section was not done on account of poor surroundings and previous manipulations. Turner's forceps were applied under ether but the head could neither be brought down nor rotated forward. The hand in the uterus showed the left shoulder against the promontory which was dislodged and rotated with great difficulty and forceps applied in L.O.A. Delivery was accomplished four hours after the application of the forceps the heart of the child was acting but there was no respiratory effort. The perineum and sides of the vagina which were lacerated were sutured and the patient made a good recovery.

The second case was that of a patient aged 29 with a history of one miscarriage. Her true conjugate was 8.50 cm. the pubic arch high and narrow. Cesarean section had been suggested before labor but was refused. The position of the head was very low before labor L.O.P. position. Eighteen hours of active labor caused dilatation but very little progress. Turner's forceps were applied under ether and the child was delivered after one and one-half hours hard work. The head was cut in several places, but otherwise the child was in good condition. The mother was lacerated to the sphincter and cut on each side to the pubic bones

by the forceps the repair of the wounds was followed by marked shock and prolonged but complete convalescence.

The third case was a primipara aged 19, of chunky build previous history negative true conjugate 8.34 cm. Examination showed albumin, indican and edema—ante-partum—but the patient would not diet. The catheter was introduced to start labor about term pains and convulsions followed. When seen after the first convulsion the pulse was 104 and not strong the cervix admitted two fingers, vertex R.O.P., head not engaged membranes intact. Cesarean section was suggested but not consented to. The cervix was dilated but the head could not be engaged even after rotation and vigorous traction. The maternal condition became alarming necessitating rapid delivery by perforation and cleidotomy. The peritoneum was torn into the rectum it was rapidly sutured followed by good reaction and recovery.

The fourth case was the same patient as Case 3. This time she dieted well but showed slight albuminuria and headache a week before term. High cesarean section resulted in the delivery of a living child. For a few days the patient's temperature was 99 and she went home on the tenth day seemingly well. She soon had thrombophlebitis with a temperature of 103° and pulse 148. Her recovery was slow but permanent.

The fourth case was a primipara aged 24 of slender build with small genitalia the true conjugate was 8.50 cm. the arch was narrow. A physiological test recommended by the consultant showed no engagement after 18 hours hard labor. High cesarean section resulted in the delivery of a living child. Aside from a rapid pulse the mother seemed in good condition. After arousing from the ether she had severe pains in the epigastrium with pulse of 156 and her face had a pinched appearance. The abdomen when reopened in two hours showed bloody saline solution which was removed. Nothing was found to account for the pains which were still present however they disappeared rapidly and the patient made a good recovery.

It will be noted that all these patients had true conjugates over 8 cm. and that in the three forceps cases only one child lived and all the mothers were badly lacerated while in the two cesarean cases both children lived and the mothers were no worse for the operation.

Though too few for conclusions in themselves these cases are fairly typical and emphasize the importance of examining all cases not proven by labor to have ample room for delivery and selecting in good time the method which will give both patients the best results. They also show the advantage of cesarean section over forceps delivery in other cases where prompt delivery is necessary when the cervix is not dilated or readily dilated.

The cause of pain and shock in Case 4 is unaccountable unless it was due to the saline being stronger than usual.

PUERPERIUM AND ITS COMPLICATIONS

Fromme F.: Ligation of the Vena Cava in Puerperal Pyæmia (Über die Unte bind ng der Vena Ca a bei puerperaler Py æmie) *Ztschr f Geb t k u Gy st* 1914 lxx 388 By Surg Gynec. & Obst

Fromme describes a case of puerperal pyæmia with slowly developing thrombosis of the right common iliac in which he ligated the vena cava. The chills stopped but began again ten days after the operation and fifteen days later the patient died. The author believes that ligation of the vena cava is indicated in cases of puerperal pyæmia. It renders operative intervention possible in very advanced cases of thrombosis of the pelvic veins. It can be done without any danger of serious circulatory disturbances. In the author's case there was no congestion in the left leg and the chills were stopped. On autopsy the vena cava above the ligation was normal. His mistake was that he did not also ligate the normal common iliac a short distance before its opening into the vena cava. This would have shut off the blood in the sound limb from contact with infected thrombi, and the infected region would have been completely cut off from the normal circulation. He advises that the vena cava be ligated high up just below the opening of the renal veins. This excludes the possibility of communicating vessels between the cava and the infected vein. The operation is not technically difficult. A Goss.

MISCELLANEOUS

Adachi, S. Diagnosis of Pregnancy by Means of the Antitrypsin Method (Beiträge ur Schwangerschaftsdiagnose mittels des Antitrypsin er fahrung) *Ztschr f Geb t k u Gy st* p 4 lxxvi 5 6 By Surg Gynec. & Obst

It has long been known that antitrypsin is contained in the blood serum of men and animals and that it varies under different normal and pathological conditions. It is practically always increased in pregnancy and so attempts have been made to utilize the reaction in the early diagnosis of pregnancy. The Fuld Gross casein method is the best means of determining the antitrypsin content and this is described in detail. Tables are given of a series of cases examined by the method including pregnant and non pregnant women, new born infants, cases of eclampsia and various diseases.

Adachi has found the method reliable as a diagnosis of pregnancy if certain other conditions can be excluded in which the antitrypsin content is also increased such as carcinoma, Basedow's disease, nephritis, fever and some gynecological diseases including myoma, salpingo-oophoritis, parametritis, etc. Among 30 clinically positive cases of pregnancy the reaction was positive in 29 or 97 per cent. There is a still further increase in the antitrypsin titer in the second half of pregnancy. Examination of the blood from the cord of new born infants showed no increase thus demonstrating

that the antitrypsin from the maternal serum does not pass through the placenta into the foetal blood. The antitrypsin content in the cases of eclampsia was variable. A Goss.

Kolmer J. A.: Sero-Enzymes in Pregnancy and Disease. *Penn M J* 1914 xviii 8 By Surg Gynec. & Obst

Chiefly through Abderhalden's researches it has been established that the introduction of foreign cells or their products into the circulation results in the production of a protective ferment capable of reducing these foreign bodies into simpler products.

Such ferments have been recognized in pregnancy in cancer in syphilis in tuberculosis and in dementia præcox. Abderhalden's methods the dialyzation and the optical methods are briefly described.

The practical value of Abderhalden's pregnancy test is set forth in the following conclusions:

1. It is too soon to express a definite opinion of the specificity and diagnostic value of this reaction. Most reports have been based upon the dialyzation method. According to Abderhalden, Veit, Frank and Hermann, Franz and Jarisch, Petri, Judd, Schwarz and others, the ferment is highly specific and the test is of value in the diagnosis of pregnancy.

2. The reaction appears in the middle of the second month and disappears in from ten to fifteen days after pregnancy has been interrupted, regardless of whether the foetus is born before or after the normal period of gestation. Nursing has no effect upon the reaction.

3. The reaction has been recommended in making an early diagnosis of pregnancy when the symptoms and physical signs are indefinite, also in making a differential diagnosis between pregnancy and tumors of the pelvis.

4. The reaction is liable to be positive in hydatidiform disease and in chorio-epithelioma.

5. In acute febrile and cachectic diseases the serum may contain relatively large amounts of dialyzable compounds; positive reactions occur in tuberculosis of the female generative organs.

6. All investigators in this field are in general accord regarding the constant presence of the reaction in the serums of pregnancy but there is a growing tendency to regard the ferment as non-specific and capable of splitting the coagulated proteid of other organs and indeed of organs from lower animals. The author regards a negative reaction of more value in excluding pregnancy than a positive reaction in establishing the diagnosis of this condition. D. H. Bove.

Falls F. H.: A Study of the Ferment Activity of the Blood Serum During Pregnancy and Under Normal and Pathological Conditions. *J Am M Ass* 9 4 lxxvii 7

By Surg Gynec. & Obst.

In a brief review of the literature the author shows that about as many men both in this country and

abroad are opposed to Abderhalden's claims for the specificity of the ferments in the blood of pregnant women as support his contentions. He feels that much of the confusion that has arisen regarding the value of the test has been caused by the numerous modifications in the technique. These modifications render the results unfit for comparison either with the work of Abderhalden and his school or with each other. Only by rigidly adhering to a uniform and standard technique can a sufficient amount of data be accumulated by various workers so that judgment can be rendered as to the value of the test as an addition to our diagnostic armamentarium. A brief description is given of the technique used by the author and a report made of 145 cases.

Twenty nine pregnancy cases were examined, 12 puerperal cases and 17 normal cases, leaving 87 cases of various pathologic conditions.

The latter were cases of lobar pneumonia typhoid fever acute rheumatic fever pulmonary tuberculosis, nephritis carcinoma meningitis diabetes fibroids pernicious anemia splenomyelogenous leukemia, malaria syphilis hypopituitarism head tetanus dementia praecox and alcoholic neuritis.

The reaction was practically always present in the pregnant cases and was also positive in 25 per cent of apparently normal cases of these however one had had a light meal one hour before the test and so did not fill Abderhalden's requirements. Another had chronic constipation so could not be classed as normal. Many of the pathological conditions gave reactions comparatively few being negative.

The conclusions are as follows. From these results it would seem that there is a ferment present in the serum of pregnant and puerperal women in most cases and it can be demonstrated by the Abderhalden dialysis method. Under the same conditions normal blood sometimes and blood from various pathological conditions frequently gave the same reactions. The strength of the reaction varied with the disease present in each case.

A large number of pathologic conditions may give the reaction and hence would have to be ruled out when the test was applied to a given individual for the diagnosis of pregnancy.

Quantitative estimation of the strength of the reaction is of little value in differentiating pregnancy from other conditions that gave a positive reaction.

The author suggests that the positive reaction obtained in these various conditions may be due to the presence of some abnormal source of ferment in the body rather than as Abderhalden holds to specific ferments elaborated by the body as a whole for the breaking down of foreign protein as a protective measure.

Bolaffio M: Anaphylaxia and Its Relation to Pregnancy. (Anaphylaxieversuch. J. Beauhuysen Schwangerschaft.) *Zi ch f Gebuik u Gz* 1914 1274 498. By S. G. Gynec & Obst.

Bolaffio undertook a series of experiments to determine whether as has frequently been claimed

eclampsia is a manifestation of anaphylaxis caused by sensitizing the organism by the albumin of the foetus. He tested guinea pigs with extract of foetal organs, extract of placenta and foetal serum but could not produce anaphylaxis with any of these substances. Neither did the amniotic fluid produce hypersensitiveness. He therefore rejects the theory that eclampsia is a condition of anaphylaxis. Of course if by anaphylaxis is meant only a disease caused by the cleavage products of albumin, eclampsia may be such a disease, not one in which placenta is katabolized by specific ferments but rather one in which the albumin of the blood, kidneys, liver, etc. is katabolized by placental ferments. There is no experimental evidence that it is a true anaphylaxis. A. Goss.

Col H N and Ruh H O: Pemphigoid of the New Born. (Pemphigus Neonatorum) with Report of an Epidemic. *J Am M S* 1914 104 101-150. By Surg. Gynec & Obst.

The authors report nine cases of pemphigus neonatorum occurring as an epidemic in a maternity hospital. The staphylococcus aureus was cultivated in pure culture in all cases in which unbroken vesicles could be found. In the first case a bacteremia developed resulting in death on the twelfth day. An autogenous vaccine was made from this case but too late to use it but it was used successfully in other cases and seemed to give prompt results when other measures failed. The infections were apparently carried from one to another and despite strict precautions and fumigation of separate rooms the epidemic became so extensive that it was necessary to close the institution for a thorough disinfection after which no new cases developed.

Because of its severe epidemic character and high mortality the authors believe the disease should be placed among the reportable cases. Because of the striking results obtained the use of the autogenous vaccine is strongly recommended. EDWARD L. COWELL.

Fournier: U of Extract of the Posterior Lobe of the Hypophysis in Placenta Previa. Delivery at Term and Post-Abortion Retention of the Placenta. (D'emploi du traité lobe postérieur de l'hypophyse dans le placenta previa à l'éclivance à terme et la rétention placentaire post abort.) *B H Soc d'obst et gynec d P* 9 4 1910 370. By Zentralbl f d Ges Gynak u Geburtsh 1 d Gynaec.

The author gives a report with detailed case histories of three cases that reacted excellently to pituitrin. In the first case the placenta was delivered spontaneously an hour after the injection of pituitrin. In the second case one half hour after the injection immediate active contractions began followed by the expulsion of the child. The third case was complicated by two fibroids of the uterus as large as oranges which interfered with the discharge of the placenta. A quarter of an hour after the injection of hypophysin the placenta was discharged spontaneously. DOWNS.

Sachs E: Further Experience with Pituglandol in Obstetrics with Special Reference to Intravenous Injection (Weitere Erfahrungen mit Pituglandol in der Geburtshilfe mit besonderer Berücksichtigung der Verwendung der intravenösen Injektion) *Monatsh f Geb h u Gynäk* 1914 xl 544 By Surg Gynec & Obst

Sachs bases his conclusions in regard to pituglandol on 289 cases treated from 1912 to 1914. Case histories of 40 are given to illustrate special points in the discussion. He finds that it is indicated in cases where the contractions are defective and even in cases where the pains are normal if it is necessary to hasten delivery as after reposition of the cord or small parts or in placenta prævia and after premature rupture of the membranes. In fever also it is advisable to hasten delivery and pituglandol is therefore indicated. It is indicated in contracted pelvis of moderate degree in which spontaneous delivery is possible also in threatened asphyxia in the third stage and after delivery of the placenta to contract the uterus and prevent hemorrhage. It is contra indicated in cases of high blood pressure and in rigidity of the soft parts chiefly in primiparae and when the child is not in good condition. He finds that it may be given from one to twenty times without injury. It is promptly excreted and there is no cumulative effect.

Subcutaneous administration is easier and suffices in many cases but where it is desirable to get rapid action intravenous injection is much to be preferred. For instance in moderately contracted pelvis with the child in good condition the quicker delivery may be of great value to the child. It is

also preferable in cases of atony near the end of the second stage for then the effect of the pituglandol also extends over the third stage. If pituglandol is used at all in cases of threatened or already existent asphyxia it should be given intravenously so as to deliver as quickly as possible. If injected slowly—0.5 to 0.75 minutes for each cubic centimeter—it never does any harm and produces results that cannot be obtained in any other way even by subcutaneous administration of the same preparation. He thinks pituglandol should be given intravenously more commonly than it has been heretofore.

A. Goss.

Queisner: Simplification of Obstetrical Instrumentation (Zur Vereinfachung des geburtshilflichen Instrumentariums) *Monatsh f Geburtsh u Gynäk* 1914 xxxix 700 By Zentralbl f d ges Gynak u Geburtsh. s d Grenzgeb

In order to dispense with perforators and cranioclasts it is recommended that the scalp be fixed with bullet forceps and split throughout its extent with scissors, then both flaps should be drawn down with strong forceps and the skull opened along the sagittal suture with scissors. Both parietal bones are seized with forceps and drawn down and then the brain usually empties out of itself. Sometimes it is necessary to place bullet forceps on the skull and gradually moving them higher—as in vaginal myoma—extract the head. The advantages of the method are that the head is fixed more certainly and that the vagina is protected from injury by the flaps of scalp. The perforation of the after coming head is similarly done.

RECHENACH

GENITO-URINARY SURGERY

KIDNEY AND URETER

Crowe S J and Wlodecki G B: Experimental Observation on the Suprarenal Glands with Especial Reference to the Function of Their Internal Portions. *Bull J A S Hosp S Ho p* 914 3 287 By Surg Gynec & Obst

The review of the literature which precedes the report of the authors painstaking and elaborate experimentation on dogs shows how little is positively known of the physiological function of the suprarenal bodies. As a result of their experiences, they report as follows:

1. The effect of total removal of both suprarenals is fatal in the dog regardless of age or sex. No difference was noted in the ultimately fatal result whether the glands were removed at one time or whether there was a gradual depletion by successive operations at intervals of weeks or months. It seems evident that there are no other bodies which are able to take up the function of the adrenals when the last remaining fragment of these glands is removed. It has been stated however that total extirpation is not fatal in pregnant animals; the function of the cortex being taken up by the cells of the corpus luteum. The authors have not as yet investigated this point. After an "almost total" removal of both adrenals the animals often have general convulsive seizures, subnormal temperature and other symptoms of acute adrenal insufficiency gradually returning to normal. The symptoms following total removal resemble in some respects those produced by total hypophysectomy—loss of weight, muscular weakness and a striking and gradually increasing drowsiness. In several of the animals experimented upon there were convulsive seizures preceding death.

2. The effect of the removal of the right or left adrenal alone was that after the removal of one adrenal a transient glycosuria appeared within a few minutes and lasted from four to twenty-four hours. No acute manifestations of adrenal insufficiency followed the removal of either the right or left adrenal alone; the remaining gland developed marked hypertrophy and in a week or ten days was double its original size.

3. In regard to the relative importance of the cortex and the medulla of the adrenals, the experiments of the authors seem to bear out the contention of Nield that it is the cortex which is the essential portion of the gland.

4. The authors conclude from their studies of the relation of the adrenals to carbohydrate metabolism that (1) a transient glycosuria follows any operative manipulation of the adrenals; (2) this glycosuria is probably not a result of direct stimulation

mechanically of the sympathetic nerves in the neighborhood of the glands, nor is it due to an increased output of adrenalin from the medullary portion of the adrenal; (3) there is little or no permanent disturbance of carbohydrate metabolism in animals with adrenal insufficiency.

5. Transplantation of the adrenals was undertaken that it might be possible to determine (1) whether a fragment of cortex alone will take if transplanted into the kidneys or into the abdominal wall; (2) whether such a graft will suffice to keep the animal alive after a total extirpation of both adrenals. It was found that following transplantation, normal looking viable cells of the cortex were found microscopically in several instances. The majority of grafts however undergo degenerative changes being eventually replaced by scar tissue. Even when large fragments are transplanted the cortical cells may survive but the chromaffin elements entirely disappear. As regards the second point: one animal experimented upon adrenal insufficiency and death supervened 24 hours after the removal of the last third of the remaining gland; the engrafted portion being found after the death of the animal to be inclosed in scar tissue but well vascularized. Only isolated groups of adrenal cells were seen microscopically all containing lipid and being of the cortical rather than of the medullary type. The explanation is that the engrafted portion had been deprived of its nerve supply.

6. In regard to the possible relation between the suprarenal bodies, the thymus and the lymphatic system an interesting combination of status thymicolympathicus in association with other changes is seen in Addison's disease. Changes in the thymus (atrophic) with enlargement of the mesenteric, retroperitoneal and mediastinal glands were noted in one case of removal of the adrenals. Enlargement of the lymph glands occurred regularly in several cases. The findings in the thymus were not so regular but not infrequently there was hyperplasia of this organ. Significant enlargement of the spleen and of the tonsils were found in one case of an animal with adrenal insufficiency of four and one-half months duration.

Further investigation is being made by the authors to confirm their findings. A. NELLE

Lockwood G. B. The Surgical Treatment of Nephroptosis by Occlusion of the Perinephric Fascial Sac. *Bull M J* 9 4 4 365 By Surg Gynec & Obst

Lockwood considers occlusion of the loose and too capacious perinephric sac as the most important

factor in preventing recurrence of nephroptosis. His operative technique is as follows: Oblique incision about one inch below the twelfth rib from the outer border of the erector spinae 4 to 5 inches forward. The muscles are split in the direction of their fibers, no nerves being divided. After opening the fascia transversalis the finding of the kidney is facilitated by rolling the patient over until the wound faces the table. After the perinephric fascia is separated from the colon and peritoneum it is taken between the finger and thumb at the lower end of the kidney which is squeezed upward within its sac until its lower pole is level with the twelfth rib. The fascia is then clamped off at its lower end and 2 or 3 ligatures of No. 2 or 3 silk are passed around it. The ends of these ligatures are left long and used to fix the perinephric fascia to the abdominal wall. Unless it is necessary to explore the kidney for deposits the sac of the perinephric fascia should not be opened. The operation is completed by bringing the abdominal muscles together with chromic gut sutures and suturing the skin with silk worm gut.

The operation can easily be performed in half an hour; it contrasts favorably as regards shock, pain, vomiting, etc., with the usual operations for nephrofixation. After the operation the patient remains three weeks in bed, three weeks on the couch, and six weeks at gentle exercise.

In conclusion the author cites a number of cases of nephroptosis with complications—calculus, hydronephrosis, through kinking of the ureter, etc.—in which permanent cures were obtained through the above-described operation. M. KAROTZKY

Barrington F. J. F.: Case of Suppurative Coll-nephritis. *Brit. J. Surg.* 1914, 1: 560.
By Surg. Gynec. & Obst.

The patient was a female aged 29 who four years previously while being treated for a chest condition developed a pain in the right renal region with frequency of urination and pyuria. She recovered from these symptoms in about two weeks, but a second attack suddenly began about ten days prior to examination followed in three days with a pain in the right loin and chills and fever. There was a great amount of pus in the urine. *Bacillus coli* were found in the cultures, but there was no blood. The temperature was 105° pulse 11; the right side of the abdomen was rigid and tender; the right kidney was very large and easily palpable. Cystoscopy showed a much inflamed bladder; there were no spurs of urine from the right side; the left kidney was normal.

At operation the right kidney was exposed. There was no edema of the surrounding fat; the kidney was easily delivered and was about one and one-half normal size. The surface was purple and through the capsule many yellow dots could be seen. Nephrectomy was done and cultures from subcapsular abscesses showed pure *bacillus coli* infection. The patient continued to have a fever

for about twelve days when it disappeared and did not recur.

The wound healed completely in three weeks. The urine still showed *bacillus coli* on culture. The kidney when split showed many yellowish streaks surrounded by a dark red somewhat raised zone which extended from the papillae to the surface where they formed the yellowish dots. These areas were wedge shaped with their bases at the cortex; the tissue between was normal. Stained sections showed a large part of the renal tissue to be normal. In the areas adjacent to the yellow streaks were dilated vessels and the tubules were filled with coagulum containing a few pus cells, chiefly polymorphonuclear. There was some extravasation in the interstitial tissue. Sections from the streak showed the interstitial tissue densely infiltrated with round cells and in the tubular casts were more cells. Sections from the middle of the streak showed the interstitial tissue replaced by cells with a few areas of necrosis. The glomeruli were little affected. In the coagulum in the glomerular spaces were a few cells with no desquamation of the glomeruli or tubular epithelium. A few areas showed groups of *bacillus coli*. The ureters and calyces were normal. The author calls particular attention (1) to the definite history of a previous attack less severe in degree than the present one, (2) present onset with acute attack of bladder trouble, and (3) the absence of edema of the perirenal fat.

G. J. THOMAS

Widal: The Means of Testing the Renal Function. *Med. Press & C.* 1914, 375.
By Surg. Gynec. & Obst.

The author briefly outlines the methods employed by him in determining the state of the kidney function which depends upon three factors: blood pressure, the degree of nitrogen retention, and the degree of chloride retention. The blood pressure records indicate the part the vascular system is playing in the course of the nephritis.

Azotemia is studied by a direct estimation of the urea in the blood. Widal uses the modified method of Yvon—sodium hypobromite. When the urea is below 0.5 gram to the liter there is no nitrogenous retention; when between this and 1 gram the prognosis is not immediately fatal, but when it is between 1 and 2 grams it is rare for the subject to survive for more than a year. The course is still more rapid when the ratio is between 2 and 3 grams; it is then a question merely of months, perhaps weeks. Figures above 3 grams are met with only in the ultimate stages of the disease and when met with indicate a fatal termination in the immediate future.

Chloruremia is usually indicated by the presence or absence of edema. However, when edema is absent there may be chloride disturbance and this may be ascertained by one of two tests: the shwartz salt test and daily weighing. The former consists in the determination of chloride equilibrium

by daily salt intake and salt output determinations and is valueless unless carried out for several days. The latter is a very simple method when the chloride content of the diet is known and consists in getting the weight of the patient daily at a regular time usually in the morning before breakfast after emptying of the bladder and bowels. A gain in weight of one pound indicates the retention of 5 to 6 grams of salt.

I RANA, ISIVNA

Walther H W E: A Simplified Apparatus for Performing Pyelography. *Am J Surg* 194 1 viii 398 By Surg Gynec & Obst

The author attempts to point out the best and safest method for doing pyelography. He lays great stress upon the gravity method of employing collargol and solutions of similar opaque substances and believes that this method should be the one of preference. He condemns the syringe method of making pyelograms as being extremely dangerous and unsurgical.

He believes that the apparatus he has devised is an improvement over similar forms of apparatus heretofore recommended for doing pyelography by the gravity method. His apparatus consists of a metal frame shaped in the form of an inverted T the arms of the lower part of the frame being fitted with U-shaped clamps which are made to hold two 50-ccm burettes. The burettes he uses are imitations being originally the barrels of two 50-ccm Triumph syringes. These cylinders are marked in gradations of cubic centimeters from 1 to 50 so that the actual capacity of the kidney pelvis and ureter can be ascertained. Attached to the lower end of each burette is a piece of rubber tubing of small caliber 3 feet long and to the distal end of the tubing is attached the small metal funnel shaped ureter catheter tips with stop cock combined. These tips are of such size as to fit any ureteral catheter and the corrugations or threads which encircle these tips possess the added advantage of grasping the catheter firmly when the two are connected.

The advantages of this form of gravity apparatus are:

- 1 The ease with which it can be manipulated
- 2 The convenience of its supporting frame which can be hung on the wall beside the operator or can be held in one hand by an assistant
- 3 The facility with which it can be taken apart for cleansing or sterilizing
- 4 Its compactness and its portability
- 5 The moderate cost of such an outfit

Kretoszyner M: Untoward Results of Pyelography. *Surg Gynec & Obst* 914 xix 51 By Surg Gynec & Obst

Not all problems of renal pathology can be solved by the clinical picture, cystoscopy examination of separate urines, and renal function analyses especially those cases not characterized by an appreciable deterioration of renal function. These

require a demonstration of their anatomical abnormality. This is furnished by pyelography. It has been extensively used. Some clinicians consider it dangerous; the majority of observers disagree with this. That it may be accompanied by some untoward symptoms is shown by a citation of cases.

A male 36 years old had had a right-sided abdominal pain for several years and his urine contained pus and blood. The function of the right kidney deteriorated. Operation three days after pyelography showed a number of necrotic and hemorrhagic areas colored with silver; there was also silver in the tubules.

Similar lesions are reported by others as well as two fatal cases, one occurring in the author's own service.

Milder symptoms observed had been pain, temperature, nausea and vomiting. It is not advisable to use morphine before injecting, as pain is a valuable index of too much pressure.

In a number of nephrectomies made by the author no trace of silver salts injected a few days previously could be found. In many cases where operation is indicated by other findings, pyelography suggests the choice of procedure. It aids in detecting ureteral abnormalities and the relations of kidney pelvis and ureter to surrounding organs. The technique must be further studied to detect just what is the factor responsible for the bad results. For the present it should be restricted to those comparatively rare cases in which the correct recognition of a renal lesion by a combination of all other exact methods of examination is impossible.

Buerger L: Concerning Renal Lesion from Pyelography. *Surg Gynec & Obst* 194 xix 536 By Surg Gynec & Obst

Buerger pointed out in 1911 that collargol when injected into the pelvis of the kidney for purposes of pyelography may penetrate far into the parenchyma. He now reports his case in full together with an additional one in which 40 per cent argyrol caused necrosis of the renal parenchyma. In the first case 12 ccm of a 1 per cent solution of collargol were carefully injected to determine the nature and extent of a stenotic ureteral lesion following ureterotomy for calculus. Although no untoward symptoms referable to the injection were noted, the extirpated kidney presented wedge-like areas of collargol infiltration extending to the surface of the organ. In some of these purulent foci and necrosis were found.

In a second case of hydronephrosis demonstrated in the pyelogram by the injection of 20 ccm of 40 per cent argyrol, quite a severe local and general reaction supervened and marked evidence of extensive necrosis of the parenchyma with infiltration with argyrol was demonstrated in microscopic sections.

The histological examination of the material from both cases showed that the silver salts may

ascend the tubules and cause coagulation necrosis hemorrhage and probably secondary purulent infection

Although the invasion of the renal parenchyma by the silver salts was apparently not dangerous to life in either case and although the appearance of the kidney in the first case and the clinical course in the second speak for the probability of recovery from the necrotic lesion nevertheless the circumstance is sufficiently grave to warrant careful analysis in order to avoid if possible the occurrence in the future. It seems unlikely that the infiltration is directly due to the technique but that the ascent of the salts is favored by other factors. The most important of these are obstructions to the outflow and secondary colic which is often accompanied by contractions of the renal pelvis and reflex into the parenchyma. The reason for the necrosis must be sought in the action of the salts in a congested organ in which hemorrhage may have been induced by infection. Purulent foci may be the result of infection carried upward by the ascending fluid.

Barham D W. Report of a Case of Post Operative Anuria Occurring on the Twelfth Day Following Nephrectomy for Hypernephroma. Tr N S & Ass Den et 1914 De By Surg Gynec & Obst

That anuria may follow certain surgical operations is a well known fact. The gravity of the operation appears to be of less importance as a determining factor in the causation of suppression of the urine than the structures concerned in the operation. For example complete suppression of the urine has so often followed the use of the catheter for the relief of a greatly distended bladder that surgeons of former times were wont to caution their pupils against the practice of completely evacuating the bladder at the first sitting.

Unskillful and maladroit instrumentation is more likely to be followed by suppression of the urine than when the manipulations are carried out with true surgical skill. Even in some of the cases of major operations where convalescence has been interrupted by the occurrence of anuria it has some times been thought that the way in which the tissues were manipulated during the course of the operation may have been partly responsible for the unfortunate complication. For example when nephrectomy or some other operation upon the kidney has been followed by complete cessation of the renal function the occurrence has been attributed to traumatism of the healthy organ by the roll or sandbag used on the operating table impinging the kidney against the vertebral column. This looks like an improbable accident but there may be some instances where it occurs.

Any operation followed by shock may cause oliguria or even anuria. The operations however which are oftenest complicated by post-operative urinary suppression are operations upon the urogenital system. The ligature method for the cure of

hemorrhoids and the operation of appendectomy are among the procedures which have sometimes given rise to anuria. In some instances an unrecognized acute nephritis may have played an important rôle in the case. When anuria is due to surgical shock it usually follows the operation immediately in fact a marked oliguria is not an infrequent sequel during the first twenty or forty eight hours after a major pelvic operation.

The frequency of this post-operative phenomenon has been remarkably diminished since the practice of hypodermic and proctoclysis with normal salines has become almost universal.

The case of post-operative anuria cited by the author is in his opinion fraught with much more than ordinary interest. The cessation of the urinary function did not take place immediately after the operation but was delayed almost a fortnight and continued unmitigated for an equal period of time.

The patient aged 28 years came under the author's observation July 25 1913. She is married and is the mother of two children. Both her parents are living and in good health. Both maternal grandparents are still living and in good health. The grandfather is 87 and the grandmother is 80 years old. No very definite information could be elicited concerning the grandparents on the paternal side save that they both died at a very advanced age. The patient has two brothers and two sisters all living and in good health. She menstruated first at the age of 12. Her periods were always regular and free from pain until about three months prior to examination when she began to suffer greatly at each menstrual period. The earliest clinical manifestations which can be associated with the immediate history of her disease was a severe and persistent pain in the back which was first observed in September 1912. For this she sought the advice of her family physician who made a diagnosis of lumbago and treated the case without success. She continued to suffer and in April 1913 developed an infection of the upper part of the left popliteal region terminating in an abscess which was treated by her regular medical attendant with success. A month later she began to suffer severely with pain situated in the region of the right kidney with tenderness in front and medianward. This attack continued for a week. About four weeks later there was a recurrence of the painful condition lasting nearly a month. Two weeks latter there was another recurrence each succeeding attack having been more severe than the one preceding.

When the patient came under the author's observation the kidney could be palpated as a very sensitive mass in the right upper quadrant of the abdomen. The mass extended well toward the median line. There were almost no abnormal urinary findings notwithstanding bimanual palpation with the finger tips of the left hand in the right costovertebral angle of the twelfth rib and

those of the right hand over the anterior and inner aspect of the tumor mass demonstrated that the neoplasm was in all probability continuous with the kidney. The ankles and knees were swollen and painful and in a lesser degree the wrist and elbow joints. There was a bright red maculoid eruption which faded away into brownish blotches covering the inferior extremities which resembled Henoch's purpura. Neither the articular nor the cutaneous manifestations are regarded as bearing any important relation to the renal neoplasm or the anuria that followed its removal but they coexisted and therefore must be recognized.

The patient had become emaciated and much reduced in strength. When admitted to the hospital the maternal temperature was 99.8°, vespal temperature 100°, pulse 90, leucocytes 8,000, the urine was alkaline and free from albumin, sugar, casts, pus, bile bacteria and blood, quantity near normal. The X ray failed to give any definite information further than to show a large shadow of the kidney. Gall bladder trouble was excluded because of the absence of the usual syndrome accompanying disease of the biliary passages. A neoplasm of the cecum or ascending colon was likewise excluded because of too little disturbance in the intestinal functions, absence of blood in the alvine dejecta and signs of obstruction. Stone in the kidney was excluded on account of negative urinary findings and failure of X ray pictures to disclose anything.

Tuberculosis of the kidney was considered but excluded for lack of positive urinary findings and it was thought that the elevation of temperature and perhaps the acceleration of the pulse were attributable to the articular manifestations.

With the tentative diagnosis of renal neoplasm the patient was prepared for operation by the administration of aperient agents, a dietary of liquids including plenty of water, cereals and vegetables and baths to place the cutaneous system in a favorable condition.

At operation August 2, 1913, under ether oxygen anesthesia an exploratory incision was made over the left kidney for the purpose of palpating and inspecting that organ. The left kidney being apparently normal the exploratory wound was closed. The patient was then placed in the position for right lumbar nephrectomy. The operation was accomplished with some difficulty on account of the density of the adhesions encountered. Fortunately the strongest adhesions were between the posterior surface of the kidney and lumbar structures, the tissues being fused so as to obliterate the different layers. The tumor had apparently propagated itself through the capsule and encroached upon the adjacent structures in the loin. It was necessary to remove considerable muscle and fascia in order to enhance the patient's chances for prolonged or permanent immunity for the same reason the pedicle was made as short as consistent with safety. The neoplasm was situated in the cortical portion

of the kidney. This may account for the absence of abnormal urinary findings. The specimen was sent to the laboratory of the hospital and was reported upon as a malignant hypernephroma.

The patient came out of the operation in very good condition and her convalescence was satisfactory until the twelfth day. The urine was voided several times a day and the quantity was sufficient.

Twelve days after the operation the patient had a menses, menstruation attended with considerable pain and only a scanty flow. The renal function was suddenly suspended, no urine whatsoever being voided. The next day after the administration of castor oil per rectum the nurse with the aid of the catheter was able to obtain almost half an ounce of dreggy fluid from the bladder. Later the catheter was employed again and but a single drachm of dirty-looking fluid was brought away. One sixth grain of pilocarpine hydrochlorate was caused to be administered hypodermatically. This was soon followed by an almost incredibly profuse diaphoresis.

The wound being healed the patient was placed in a hot bath once a day as an additional means of stimulating cutaneous transpiration. After being placed in bed and given a dose of the pilocarpine salt hypodermatically prompt and profuse sudation always followed. The nourishment was limited to fluids. There were no marked uræmic manifestations exhibited at any time notwithstanding the facial expression showed a certain amount of anxiety after the first three or four days. Hysterical phenomena were not observed at any time. On August 24 a few drachms of dark muddy albuminous urine were voided. On August 25 eleven days after the onset of the anuria seventy five ounces of urine were voided. The daily quantity of urine from this date on remained between forty and fifty ounces and further convalescence was uninterrupted. Sixteen months after operation the patient is still feeling well.

Bickerton R. A. Kinked Ureter. *Proc Roy Soc Med* 9 4 11 Surg Sect 259
By Surg Gynec & Obst

The author has collected a considerable number of cases of hydronephrotic and pyonephrotic kidneys. By making them water tight and distending them it was possible to see where the obstruction had been.

In order to determine if possible the origin of distended pelvis the first class of cases considered are hydronephrotic due to kinked ureter. These the author divides into three classes.

1. Those with enormously dilated soft thin-walled pelvis.

2. Cases in which the body of the kidney is canoe-shaped.

3. Cases in which the ureter starts at the lowest part of the pelvis and runs upward for some distance thus acting as a siphon.

In a good many cases the ureter is kinked over an abnormal renal artery. This is very difficult to

demonstrate on a cadaver or on the operated specimen

The author recommends pyelography as of advantage in these cases from a diagnostic standpoint. In conclusion he calls attention to a very striking difference which appears to exist between these cases of hydronephrosis from kinked ureter and the large pyonephrotic tumors dependent upon renal calculi. In the former cases as just described the great bulk of these enormous tumors is in the main made up by dilatation of the original renal pelvis the kidney itself participating in the enlargement only to a lesser degree.

In nearly all the larger pyonephrotic tumors depending upon renal calculi the renal pelvis as such has practically ceased to exist. These kidneys have a contracted and cicatricial pelvis formed of dense fibrous tissue everywhere closely surrounding the stone and apparently contracting upon it. The great bulk of the tumor is made up of the enormously dilated calices enclosed by the stretched and thinned out renal cortex. A C. STOKES

Thomas, W. T. Ureteral Calculi. *Proc. Roy. Soc. Med.* 1914, 5, 3, Sect. 279.
By Surg. Gynec. & Obst.

Thomas reports twenty cases on which he operated. He classifies the symptoms in the order of their frequency as follows:

Dull pain in the groin, renal colic in 13 cases; hæmaturia and pyuria in 4 cases; hæmaturia alone in 6 cases; pyuria in 5 cases; and 3 cases had neither hæmaturia nor pyuria. In one case the symptoms directed him to the wrong side.

In the ureter and kidney with the exception of 1.5 inches at the lower end of the ureter the X-ray evidence is sufficient for diagnosis. In the remaining portion of the kidney and ureter a cystoscope and ureteral catheter should locate the stone.

In only two cases did the author find it necessary to pass a special ureteral bougie.

In investigations in the London University to ascertain the chemical production of stone in the kidney not a single one was found to be composed of uric acid; they all consisted largely of calcium oxalates and phosphates with a small per cent of urates.

The positions of the stones in the twenty cases alluded to are as follows: 8 cases were outside of the bladder wall; 1 in the bladder wall; 1 in the pro-lapsed ureter within the bladder; 3 two inches above the bladder; 1 at the lower level of the sacro-iliac joint; 1 in front of the sacro-iliac joint; 1 opposite the fourth lumbar transverse process; 1 blocked the commencement of the ureter; 2 had multiple stones; and 1 had a large portion of the ureter filled with calcareous sediment.

The treatment is operative except when the stone can be reached with the cystoscope. A diagram should be made just before the operation. Thomas uses the muscle splitting apparatus to get to the ureter in some parts. A C. STOKES

BLADDER URETHRA AND PENIS

Graeupner. Vesical Calculus (Blasenstein). *Monatssch. f. Gynäk. u. Gynäk.* 1914, xxxix, 698.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. 5, d. Grenzgeb.

After a vaginal fixation a vesicovaginal fistula developed, which was sometimes closed in a valve-like way by a stone. Colpocystotomy was performed, the stone removed, the wound sutured, and a permanent catheter inserted. The very hard stone had a silk suture as a nucleus. The author warns against the use of silk sutures in vaginal operations. RUDMANN

Fuller, E.: The Surgical Management of Pericystitis. *titus Med. Rec.* 1914, lxxvi, 573.
By Surg. Gynec. & Obst.

Fuller emphasizes early seminal vesiculotomy in cases of pericystitis due to infected vesicles. Cases of cystitis secondary to seminal vesiculitis have cleared up remarkably well under operative treatment.

The clinical symptoms of pericystitis vary a great deal. The diagnosis is based upon the rectal examination and cystoscopy. On palpation the vesicles are found enlarged and tender and may be bound down by adhesions. Cystoscopy shows a congested trigone or it may even include the vertex creating a panvesical lesion. A greatly contracted bladder is not infrequently found on the other hand. Pericystitis may originate from within the bladder due to tuberculosis, trauma, neoplasms, etc.

The author earnestly protests against the three favorite methods of treating pericystitis due to infected vesicles: Bladder irrigation with either stimulating or soothing irrigations; surgical bladder drainage either perineal or suprapubic; and as a last resort, prostatectomy, are all strongly condemned. After these treatments the patient is variably left in a much poorer condition.

Three case histories of pericystitis are presented in which gonorrhea was the exciting cause followed by seminal vesiculitis. The examinations disclosed infected and adherent vesicles contracted and inflamed bladders. In the third case a renal lesion was found secondary to the pericystitis. In all three the seminal vesicles were drained with very gratifying results. The second and third patients had been referred for prostatectomy and nephrectomy respectively. C. D. PICKRELL

Robitschek, E. C.: Primary Tumors of the Bladder in Children. Report of a Case of Fibrous Polypus. *SI Pa. J. M. J.* 914, xvi, 580.
By Surg. Gynec. & Ob. t.

In connection with his report of a case of fibrous polypus of the bladder of a child, Robitschek reviews the literature and discusses the etiology, symptomatology, diagnosis, and treatment. A lengthy bibliography accompanies the report.

The case was that of a male child, aged four and one half years, who complained of inability to

urate. He had been perfectly well until six or eight months before when the mother first noticed difficulty in urination which was thought at first to be due to habit. There would be a sudden desire to urinate later attended by straining at times with increasing pain.

Recently he had had sudden complete retention which was relieved only by a catheter. This treatment was followed by spontaneous urination for a few days when dysuria and straining gradually increased followed by retention catheterization and relief again for a few days. At no time was blood discovered in the urine. While under observation retention again occurred which was relieved by a retention catheter for a few days.

Examination showed a perfectly healthy child except for the urinary disturbance. Bimanual examination was negative. No stone could be felt with the sound or could be discovered with X-rays. A child's cystoscope was not available.

Suprapubic cystotomy disclosed a pedunculated growth 3.5 x 1 cm situated in front of the urethral opening. This was removed by actual cautery.

The pathological diagnosis was telangiectatic fibrous polyp. H. A. FOWLER

Cooper J. M.: Stricture of the Male Urethra. *S. with ed. J. M. & S. 1914*, 271, 606.
By Surg. Gynec. & Obst.

Cooper speaks against too precipitate operative treatment of stricture and recommends assiduous and careful gradual dilatation. The advantages of preliminary meatotomy when indicated is urged and the routine examination with olive tip bougies advocated. He reports stricture as having caused symptoms variously interpreted as those of sciatica, lumbago, etc. J. S. F. SEVASTYANT

Wolbarst, A. L.: The Colliculus Seminalis Considered as a Factor in Chronic Disease of the Male Urethra. *Am. J. S. & G.* 1914, 369.
By Surg. Gynec. & Obst.

The author presents 31 interesting cases of recent date, all of which presented the single complaint—sterility due to azoospermia—without any history or evidence of gonorrhea or of epididymitis. The patients were strong, young, healthy, married men, one of them stout, the others of normal weight. The sexual function was in no sense disturbed and the prostate, seminal vesicles and external organs were apparently normal. Examination of the fresh seminal secretion showed an utter absence of spermatozoa. However, the examination of the posterior urethra showed the following striking conditions:

In the first case the colliculus was highly congested, the anterior aspect deep red like a fiery ball from its upper surface emerged five bands of fibrous tissue which extended backward along the floor of the prostatic fascia toward the esical neck. At first sight these bands gave the impression of a trabeculated bladder with the difference that there was no crossing of the bands, all of them radiating

outward like an opened fan. The ejaculatory ducts could not be discerned.

In the second case there was very highly inflamed colliculus, the base deep red, streaked with white and gray and bleeding easily when touched with a probe or cotton carrier. From its anterior surface a cauliflower-like polyp arose behind which could be seen the outlines of a large cystic mass. No ejaculatory ducts could be found.

In the third case there was a large deformed colliculus utterly obscured by innumerable large and small cysts, total cystic degeneration when punctured some of these bodies gave forth a creamy white cheesy substance which dissolved readily in the irrigating fluid. The ejaculatory ducts were not visible.

The treatment of colliculitis and the technique pertaining thereto is practically new and the methods are still in an embryonic state. Enough has already been accomplished, however, to warrant the statement that with the aid of a suitable posterior urethroscope and sufficient experience on the part of the operator, striking results are obtained in the alleviation of chronic conditions that have heretofore been considered almost hopeless. H. A. MOORE

Hawkins, J. A.: Present Status of the Verumontanum in Deep Urethral Diseases. *N. Y. J. S. & G.* 1914, 709.
By Surg. Gynec. & Obst.

Fourteen years ago the author treated his first patient for inflammation of the verumontanum and he is convinced that the verumontanum is the seat of nearly all if not all the genito-urinary neoplasms.

The use of the straight tube in the examination or treatment of the verumontanum is not to be compared with the curved tube of Lester into the fenestrum of which the verumontanum looks like an erect clitoris. It is well to remember that any number of pseudoverumontanums may bob up in the fenestra as the tube is withdrawn if care is not taken on account of the bulging mucosa on the floor. This can be rectified by changing the position of the tube slightly.

The use of the solid tick of a sizer has when used by the author produced no better result than a 15 to 20 per cent solution of the nitrate and on several occasions patients have suffered severely.

In addition to the use of a 1 per cent silver solution of 15 to 20 or even 50 per cent and the use of the punch recommended by Gardner the verumontanum may be attacked through the Wappler cystoscope with the high frequency unipolar spark of Oudin. This the author thinks, is the nearest and most artistic method of diminishing an enlarged succulent verumontanum and it is not followed by bleeding.

As to the prognosis in these cases the author states that if any good is to result the inflammation should begin to subside after three or four treatments at ten day intervals. When the inflammation

tion once begins to abate the cure is usually rapid and if the patient has not recovered from the urethral trouble in three months little more can be done. The symptoms of hypochondriasis begin to disappear when or even before the urethral lesions show improvement. Tonics, baths, change of scene and all methods to cheer up the patient and get his mind off himself and his illness will assist greatly. These are all chronic cases and require chronic treatment in which patience and tact play most important parts. **H A Moore**

Foster G S An Interesting Case of Hermaphroditism *J M J* 914 560
By Surg Gynec & Obst

The author reports a case of hermaphroditism which presents some unique features. The patient 27 years of age was next to the oldest of a family of ten children—none of the others being similarly formed. At seven she began having epileptic attacks which recurred weekly up to the tenth year when menstruation became established following which the epileptic attacks became more frequent and severe. These attacks continued with some irregularity and were followed by weakness and prostration.

Mental development had not progressed normally since the patient's seventh year. Her features, voice, skin, eyebrows, hair, shoulders, chest, arms, forearms, and hands were masculine. The mammary glands were not well developed, the abdominal wall was muscular, the thighs were large and the pelvis broad and flaring. The labia were of normal conformation and size. Where the clitoris is normally located was suspended a fully developed penis such as would be normal in a boy 8 or 10 years of age. The vagina would admit two fingers. The hymen was intact.

Under ether the vagina was found to be shallow and infantile. There was no cervix uteri. The os was merely an aperture in the vault of the vagina which seemed to pierce an area of thickened tissue. On bimanual examination an oval mass was found to occupy the place of the uterus. The tubes and ovaries were not well palpated. Operation was decided upon for the possible influence on the economy. The clitoris or penis was resected and the base made flat by suturing and following this a suprapubic panhysterectomy was done. A globular mass about the size of a peach was found in place of the uterus. The tubes were normal in size, length and form. The left ovary which was the size of a hen's egg bore multiple cysts. The right ovary was normal in size and consistence. Attached to it was a firm, pearly white mass the size of a walnut which when incised revealed a structure resembling testicular tissue. Microscopic examination confirmed the existence of a testicle well formed and complete.

Recovery from operation was uneventful. The epileptic attacks continued but became less frequent and severe.

The author calls attention to the extraordinary condition in this case of the existence of a testicle in close proximity to the right ovary. **H G HAMER**

Hart D B On the Atypical Male and Female Sex Ensemble—So Called Hermaphroditism and Pseudohermaphroditism *Ed b M J* 1914 11 295
By Srg Gynec & Obst

The author defines the criterion of sex as the presence of the sex gland. Abnormal development of the opposite sex duct elements cannot be regarded as evidence of sex at all. They are only valuable in classifying the sex-ensemble as typical or atypical.

In typical and atypical sex ensemble cases the sex is either male or female.

The author classifies typical female and male sexual characteristics as follows:

1. The typical female sex-ensemble is made up of (a) the ovary, (b) the potent sex-duct tract—tubes, uterus, vagina and external genitals, (c) the opposite sex-duct elements—epoophoron, degenerated equivalent of the epididymis of the male, (d) the secondary and congruent sexual characters—hair distribution, pelvis body form, vocal cords, ossification of thyroid cartilages (incomplete) and the psychosexual feeling for the male mentality less strong than in male.

The typical male sex-ensemble comprises (a) descended testes, (b) vas deferens and phallus—the potent organs, (c) the opposite sex-duct elements—hydatid testis and prostatic utricle, (d) the secondary sexual characters—hair distribution, pelvis body form, vocal cords, ossification of thyroid cartilages (complete) and the psychosexual feeling for the female mentality stronger than in female.

The author then gives various classifications of hermaphroditism. We will submit only the classification of Sir J Simpson:

Hermaphroditism	Spurious	In the female	From excessive development of the clitoris, etc. From prolapsus of the urethra From extroversion of the urinary bladder
		In the male	From adhesion of the penis to the scrotum From hypospadiac fissure of the urethra, etc.
	True	Lateral	Testes on the right and ovary on the left side Testes on the left and ovary on the right side
		Transverse	External sexual organs female internal male External sexual organs male internal female
		V uterine or double	Ovaries and an imperfect uterus with male vascular structures and rudiments of vas deferens Testes and vas deferens and vesiculae seminales with an imperfect female uterus and its appendages Ovaries and testicles coexisting on one or both sides

Several cases are enumerated and the author gives some excellent examples of sex ensemble in both

male and female and discusses at length variations in sex ensemble and the possibility of early diagnosis of the same. He says in atypical female sex ensemble the diagnosis is difficult if not impossible in the infant. In the adult the presence of the prostate and of the hypospadias misleads and in Febiger's case the real diagnosis was impossible.

In atypical male sex ensemble the diagnosis is easier especially if the testes are in the demiscrotum. Homosexuality he says is illustrated in Febiger's Case II and also by Tuffier and Lapointe's cases its cause evidently being the opposite psychosexuality present. The case was therefore a victim of organization and not a depraved personality as may sometimes be the case.

1 The atypical or pseudohermaphroditic sex ensemble case is either male or female and thus is judged by the nature of the sex gland.

2 The potent, non-potent and secondary sexual characters are not in the maximum minimum ratio with congruence of the secondary sexual characters.

3 The non-potent in atypical sex-ensemble cases are thus increased and the congruence of the secondary sexual characters is disturbed.

4 It is to be specially noted that in the atypical female cases a prostate with lateral lobes only (Febiger's Cases I and II) or with all the lobes (Febiger's Case III, an infant of six weeks) may be present.

5. In the atypical female cases the suprarenals are enlarged in all the accurately recorded cases (Febiger's and Fraser and Dickson's) but the bearing of this in such cases is not accurately known.

6 In male atypical cases part of the lower urinogenital sinus may be present and may thus simulate an imperfect vagina, sometimes a hymen is present and in Martin's case the external genitals and vaginal entrance resembled those of a female in every detail.

7 Certain atypical male and female sex-ensemble cases may be inverted both in sexual feeling and in mentality.

8 In atypical male sex ensemble cases the testes may be pelvic in the groin or completely descended into the two halves of the scrotum (Tuffier and Lapointe, Neugebauer and Martin).

9 In certain atypical male cases the sexual instinct may be doubly exercised. A C. SROXES

GENITAL ORGANS

Morris, R. T. Heteroplastic Grafting of Testicle

J. M. J. 94 753 By Surg. Gynec. & Obst.

Prompted by the recent work of grafting of the testicle by Lydston Morris reports a case of a man 49 years of age who as the result of being thrown by a bucking horse upon the pommel of a Mexican saddle had both testicles crushed and they had to be subsequently removed by operation. Shortly afterward all characteristic masculine coarseness was lost and the patient ran a large ironing man

came extremely nervous, with periods of great depression. Morris suggested the grafting of testicle to which the patient consented. The necessary grafting material was obtained from a man 36 years old with a very large hernia who gave a negative von Pirquet and a negative Wassermann.

A wedge of tissue was taken from the testicle of the donor and cut into four slices each averaging 3 mm in thickness and approximately the length of the testicle. One of these segments was engrafted into the right scrotum of Morris; the other one was placed beneath the fascial sheath of the right rectus abdominus and the third segment placed beneath the sheath of the left rectus abdominus. A Wiers celluloid testicle was placed in the left scrotal sac. Within 48 hours from the time the grafting was done the patient was distinctly conscious of the effect of the internal secretion which he was absorbing from the grafts. At that time occurred the first distention of the corpora cavernosa and corpus spongiosum that had occurred in ten years. The patient subsequently gained 14 pounds, was no longer known to be melancholy and despondent and sexual activity was restored.

H. W. E. WALTERS

McArdle, J. S. The Surgical Treatment of Hydrocele. *Practitioner* Lond. 94 471

By Surg. Gynec. & Obst.

After studying the surgical procedures and outcome of the different varieties, McArdle established the fact that the open operation was the only reliable method of dealing with the various types of hydrocele. He recites the histories and reproduces some excellent pictures to demonstrate the different cases.

He says the palliative treatment is practically a thing of the past. Volkman's method as well as that of Juillard was followed by recurrences. Andrews's so-called bottle operation is simple and rapid but unsuited in cases of long-standing trouble with thick-walled sacs. Jouboulay's method of extroversion is a very slow procedure while in Longuet's method of eversion of the sac there is no gain either in time or in results. On the whole he prefers the simple and effectual operation of resection (Bergman).

The author contends that resection is the proper treatment for all hydroceles derived from the tunica process of the peritoneum congenital, encysted of the cord and the vaginal type. In the congenital form ligation of the neck should precede the resection.

When the cyst is the rete testis the tunica vaginalis is opened in front, the testicle turned on one side and an incision made over the cyst at right angles to the long axis of the testicle, blunt dissection frees the entire cyst or as much as is necessary for the success of the procedure. All hydroceles developed in the vasa efferentia or in Kobelt's tubes are best treated by this method while the pedunculated ones require ligation of the

pedicle with catgut and removal with scissors. Complete excision can be accomplished even when the hydroceles are multilocular. **LORIS GROSS**

Bary M: Trophic or Disintoxicating Action of Prostatectomy (De l'action trophique ou désintoxicante de prostatectomie) *Bull Acad d med* Par 1914 LXXI 844 By Surg Gynec & Obst

It is a mistake to call an operation for hypertrophy of the prostate a prostatectomy. The so called prostatic hypertrophy is caused by the presence of adenomata which deform and obstruct the prostatic urethra and the meatus of the bladder. The operation consists in the removal of these adenomata and should be called prostatic adenomectomy. This is an important point for an adenectomy leaves the glandular part of the prostate intact and both its internal and external secretion is important.

The late results of this operation are complex. It renders the free emptying of the bladder possible and thereby overcomes all toxic effects from infection through the bladder but this does not suffice to explain the improvement in general health which follows the operation. The author describes a case in point in which constant drainage had been established and the bladder was disinfected every day but still there was continuous albuminuria, oedema and heart trouble which sometimes necessitated the use of digitalis. After a prostatic adenomectomy all these symptoms disappeared. It is difficult to explain this improvement which was certainly not due to reestablishing the free discharge of urine. It was probably due to scarcely perceptible bodily changes. In other cases constipation has disappeared, intestinal secretion has been improved and normal intestinal contractions re-established.

Bary attributes his good results in a great measure to his after treatment. At the close of the operation he tampons the cavity left after the removal of the adenomata around a large urethral sound then he places in the bladder a large tube that comes out through the abdominal wound. The tampon is left in place 24 hours then continuous irrigation is begun with warm salt solution. The solution is introduced drop by drop through the large bladder tube into the prostatic cavity and comes out through the urethral sound and is carried through a long rubber tube into a receptacle. After four days the tube is removed but the sound is left in place the bladder is closed with a dressing drawn rather tightly. It is often possible to remove the sound after 12 days sometimes it remains longer but it is unusual for complete recovery to take longer than three weeks. **A Goss**

MISCELLANEOUS

Posner G: Cylinders and Cylindroids (Zylinder und Zylindroide) *Ztschr f Uol* 914 III 300.
By Zentralbl f d ges Chir u Grenzgeb

With dark field illumination it is possible to form a better judgment as to soft transparent formations in the sediment. Along with the hyaline cylinders there are many irregular very long branched formations called cylindroids which frequently coexist with true cylinders. They are of diagnostic value in the beginning in convalescence from acute nephritis and in the so-called pretuberculous albuminuria. It must be taken into consideration that cylinder like clots may come from the deeper parts of the urinary tract but they can be recognized as such by their coexistence with elements from the prostate and seminal vesicles. **ROBERTUS**

SURGERY OF THE EYE AND EAR

EYE

Smith H. Treatment of the Earlier Stages of Senile Cataract. *Ophth Rec* 9 4 xxii 407
By Surg Gynec & Obst

Smith believes that much can be done by treatment with cyanide of mercury injections in cases of immature cataract in certain stages. When there are definite reduction divisions in distant vision an examination with the ophthalmoscope gives the impression that one is examining with a poor light and yet there are no definite opacities of the lens or when these are dust like and arranged peripherally then he considers this treatment indicated. Subconjunctival injections of cyanide of mercury of 1 to 4,000 or 5,000 are given 25 minims are given usually with the patient under the influence of morphine. Definite improvement results within a month and the lenses are as a rule entirely clear by the end of the third month. When there are definite opacities present Smith unhesitatingly advocates extraction within the capsule.

Wood H. The Elliot Trephining Operation in the Surgical Treatment of Glaucoma. *J Ten*
St M A 19 4 vii 240

By Surg Gynec & Obst

After a reference to von Graefe's iridectomy in the operative treatment of glaucoma the newer operations are discussed. The Lagrange operation marked an epoch in operations for glaucoma in that Lagrange introduced the principle of sclerectomy or buttonholing the sclera by the removal of a piece of sclera at the corneoscleral junction. This opening in the sclera allows permanent subconjunctival drainage and so reduces tension.

The Elliot operation is described. In this after turning down a conjunctival flap a circular disc 1 to 2 mm in diameter is removed by a trephine from the corneoscleral junction opening by its deep end into the anterior chamber. A small peripheral iridectomy is done to prevent the iris plugging the trephine opening and the conjunctival flap is restored to its position and usually retained by one or two sutures. Permanent filtration follows from the anterior chamber through the trephine opening into the subconjunctival space. The greater ease and safety of the Elliot operation as compared with those of von Graefe and Lagrange are discussed. Trephining is advised in acute and chronic glaucoma.

Moulton H. The Surgical Treatment of Glaucoma. *J A S M Soc* 9 4 xi 13

By Surg Gynec & Obst

In discussing von Graefe's iridectomy and Elliot's trephine operation Moulton asserts that

the former is usually successful in acute and many complicated cases while for the chronic cases the latter is resorted to.

The essentials of iridectomy are (1) an incision through the sclera close to the cornea and (2) removal of a piece of iris at its periphery. Efficacy is supposed to result from opening a corresponding portion of the anterior chamber angle which was closed by the base of the iris being pushed against the sclera and cornea, thus causing the aqueous to drain through the lymph spaces at the anterior chamber angle.

Elliot's operation differs from von Graefe's iridectomy in that it opens up a new and artificial channel of drainage. A triangular conjunctival flap is dissected from above the cornea downward with its attached base toward the cornea. Superficial layers of cornea are undermined so that the sclera over the anterior chamber angle and a small margin of clear cornea are uncovered. The flap is laid over the cornea. A 2 mm round trephine opening is made through the sclerocorneal junction into the anterior chamber with the excision of a piece of iris. The conjunctival flap is stitched into place thus establishing a permanent subconjunctival opening into the anterior chamber through which the aqueous drains as evidenced by the edematous flap and lowered tension. C A MAGNY

Elliot R. II. Some Points in Connection with the Operation of Sclerocorneal Trephining. *Tr Clin C S S N Am London*, 9 4 July
By Surg Gynec & Obst

The author discussed number of points in connection with the operation of sclerocorneal trephining. His conclusions are:

1. The vascular type of filtering scar is wrong, dangerous and unnecessary. It involves a risk of late infection and must be avoided by the adoption of a correct technique the principles of which are (a) the reduction of the necessary dissection to a minimum and (b) the making of thick based flaps. The thickening of the base must include both the conjunctiva and the cornea. Under this treatment the objectionable type of scar is avoided and there is established a filtering area so wide as to be coterminous with the bulbar conjunctiva itself.

The impaction of uveal tissue in the hole is the gravest danger attending the trephine operation. It may occur (a) at the time of operation owing to the iris being dragged into the hole by the surgeon or being pushed there by pressure from behind and (b) it may occur after the patient has been returned to bed. The pros and cons of performing an iridec-

tomy as a routine step of the operation are considered and the author advises that a peripheral buttonhole iridectomy be performed with the same snip that cuts the hinge of the disc. Impaction due to a vitæ tergo calls for masterly inactivity. A late prolapse of iris should be excised after raising the flap.

3 The graduation of the size of the fistula produced can be controlled when dividing the disc with scissors after the trephining has been performed. The technique is given and the broad indications for the necessary graduation are explained.

4 The plea is entered that in discussing the cases of late infection after trephining care should be taken to consider the question in all its bearings so that the sense of proportion may be maintained.

Mayo, C. H. The Surgical Treatment of Exophthalmos. *J Am M Ass* 1914 12: 47.
By Surg. Gynec. & Obst.

Mayo states that exophthalmos of slight degree may occur in high degrees of myopia but extreme conditions are more commonly caused by growths of soft tissue or bony tumors in the back of the orbit and rarely it may be produced by arterio-venous aneurism. The only constitutional disease causing it is exophthalmic goiter. The peculiar starting with widening of the palpebral fissure is often confused with exophthalmos. Such a condition may be caused by myocardial disease or one which is complicated by myocardial changes e.g. chronic or ic myocarditis or advanced Bright's disease.

Graves laid particular stress upon the protrusion of the eye in the syndrome of symptoms accompanying the disease called by his name and the other symptoms occurring without it were looked upon as pseudo Graves disease. The eye symptoms in hyperthyroidism are so striking in character and so distressing to the mind of the patient that they have been the occasion of much discussion. Undoubtedly the condition marks a peculiar involvement of the sympathetic nervous system and Jaboulay while not the first to note this was the first to operate for exophthalmic goiter by resection of the sympathetic ganglia a method also frequently employed by Jonnesco and Abadie. The operation is not difficult and it relieves the eye symptoms in a higher percentage of cases than does thyroidectomy. Its value for the general cure of the disease is not discussed.

The author has employed sympathetomy with marked success in cases in which thyroidectomy failed to relieve the exophthalmos although practically curing the other symptoms.

Higgins, C. Cases of Recovery from Detachment of the Retina. *Lancet* Lond. 1914 1: 60.
By Surg. Gynec. & Obst.

Higgins reports three cases of recovery from detachment of the retina. At a meeting of the

Ophthalmological Society in January 1902 he read notes of the recovery of such a case. Members of the organization expressed doubt of the permanency of the case. He now republishes the case with a further history giving the required information together with notes of two other cases.

A woman 27 years of age with myopia consulted him in 1892. On August 23 1899 the case gave a history of sudden dimness of vision in the left eye there was a large detachment of the retina below. The treatment consisted of recumbent position most of the day and the rubbing of 10 per cent oleate of mercury into the temple and forehead. On August 30th the case showed improvement. Part of the field that had been faulty could now distinguish pencils keys, etc. In 1901 the patient complained of obscuration of the upper field in the right eye. The retina was found detached. The patient was ordered to lie down the greater part of the day daily vapor baths were ordered and she was instructed to take eleven drachms of unguentum hydrargyri daily and use an astringent mouth wash. This treatment was continued for eleven days. One month and twenty days after the condition was discovered it was noted that vision was as good as it had been before detachment.

The second case was a high myopia with retinal detachment. Mercurial inunction to temples and forehead was ordered. The eye was bandaged at night and atropine drops taken once a day. When seen and carefully examined years afterward the eye showed no sign of detachment of the retina.

The third case had a large detachment of the retina in August 1890. Atropine drops and iodide were given and the patient rested six hours a day for two months. On July 23 1902 the field was full in 1904 the vision continued to show the same good results.

Higgins says that from his experience he believes all operative treatment is worse than useless. He notes that the treatment that seems to hold out the best is rest in the horizontal position continued for weeks. Measures were used to cause removal of fluids such as sweating purgatives absorbents and abstinence from fluid nourishment. The cases were undoubtedly cured but he does not say whether the credit is given to the treatment or is merely coincident with it.

T. J. DUNN

Knorr, E. A. and Malsda, H. J. Report of a Case of Tuberculosis of the Eye. *W. M. J.* 1914 1: 53.
By Surg. Gynec. & Obst.

The disease occurred in a male 32 years of age. The right eye was the affected one with no signs of disease in the left. An exudate protruded into the aqueous humor which prevented an inspection of the fundus. Subcutaneous injections of old tuberculin 1:1000 mg. gave slight reaction. The eye was enucleated and the author presents a complete pathological report.

Microscopical examination demonstrated disseminated miliary tuberculosis apparently benign.

mung in the ciliary processes or the iris. The choroid showed miliary tubercles scattered through this membrane.

The authors review the literature on this subject under the three groups as clinically observed: (1) miliary tuberculosis, (2) recurrent hemorrhages of the retina and vitreous followed by proliferation in the retina, (3) toxic tuberculosis.

GUSTAVUS I. HOGUE

Bell G. H. A Case of Tuberculosis of the Sclera of Probable Primary Origin. *Med Rec* 914 LXXVI 455 By Surg Gynec & Obst

The author reports a case of tuberculosis of the sclera of probable primary origin in a white patient aged 20 whose history, general examination and tuberculin tests proved the absence of tuberculosis elsewhere in the body.

The treatment consisting of tuberculin bacillen emulsion (B.E.) varying in doses from .00004 gm to .06 gm given every fourth day and extending over a period of seven months reduced the inflammation of the sclera with nodules and corneal involvement leaving no indication of disease except some scars on the cornea and scleral pigmentation. Vision with correction when treatment commenced was O.D. 20/15 O.S. 20/30 and when discharged was O.D. 20/15 with plus 50 axis 15 O.S. 20/30 with minus 50 and plus 15 axis 90.

C. A. MACKEY

Fisher G. Choice of Methods in the Removal of the Eyeball. *Tr Northwest Railway S & A* Chicago 914 Dec By Surg Gynec & Obst

There is a choice of four operations in the removal of the eyeball: (1) simple enucleation, (2) enucleation with the insertion of fat, paraffin glass balls or gold balls in Tenon's capsule, (3) evisceration, (4) evisceration with insertion of a glass ball in the scleral cup. The use of fat and paraffin prostheses as well as the insertion of a glass ball in the scleral cup are not recommended. Simple enucleation without suture is very desirable save for faulty cosmetic effect which may be remedied by the insertion of a glass ball. This method is best for tumors of the globe, painful blind or shrunken eyes, tuberculous panophthalmitis with much orbital cellulitis, badly lacerated globes, and especially—for the surgeon's protection—in the prevention or cure of incipient sympathetic ophthalmitis.

In all other cases evisceration is strongly recommended because of the superior cosmetic result. There is no proof of the stump causing sympathetic ophthalmitis in cases where the uveal tract is thoroughly removed. There is much unfounded prejudice against this operation.

Local anesthesia may as a rule be used in enucleations occasionally in eviscerations.

EAR

Dabney V. Vaccine Therapy in Ear Disease. Further Contribution to the Study of the Subject. *Laryngoscope* 914 XXI 866 By Surg Gynec & Obst

The author regards vaccine therapy as an additional measure only and believes it should never be undertaken to the exclusion of any and all the usual precautions. Success depends much on the culturing and preparation of the vaccine and the method of its administration. He uses vaccines in acute cases also but waits from five to seven days. This delay: (1) allows the discharge to give some intimation of its virulence indicating the use or non-use of vaccine, (2) increases the chance of the vaccine acting beneficially, it being well known that a vaccine acts better after this pause than if given earlier before nature has well organized its phagocytic defense.

The following organisms and adult dose are given: *Staphylococcus pyogenes aureus* and *albus* 250 million.

Streptococcus pyogenes, 25 million.

Bacillus of proteus type 30 million.

Bacillus of pseudodiphtheriae, 40 million.

Infections are repeated every 3 to 4 days and increased one-third depending on the reaction and the progress of the disease. Nephritis, diabetes, tuberculosis and severe constitutional depletion are contra-indications. It is wise to give an additional dose after apparent recovery.

For furunculosis of the canal the author regards vaccines as a specific, unless due to diabetes, leucæmia or tuberculosis.

In commending this therapy the author states that he has no illusions on the subject and that there is no royal road to cure for affected ears; it should not be used except with the other means of treatment employed by the experienced physician.

In an appended table the author tabulates 36 cases of furunculosis, all cured; 22 cases of chronic suppurative otitis media with 7 cured, 5 improved and 10 unchanged (2 diabetics); 23 cases of subacute suppurative otitis media with 18 cured, 0 improved and 5 unchanged; 15 mastoid sinus cases with 9 cured, 4 improved and 2 unchanged (2 diabetics).

OTTO M. RORT

Lougee J. L. End Results Following the Yankauer Operation on the Eustachian Tube. *J Am M A* 1941 11, 576 By Surg Gynec & Obst

Following curettage of the eustachian tube in twenty-five cases with histories of discharge from the ear for from two to thirty-five years, in but one case did the tube remain permanently closed with the ear dry.

ELLEN J. PATTERSON

SURGERY OF THE NOSE, THROAT, AND MOUTH

NOSE

Thompson J A: An Uncommon Case of Nasal Hemorrhage *Laryngoscope*, 1914 xiv 880
By Surg Gynec & Obst

The sites of the hemorrhage in this case were (1) from the angiomatous tissue of the right inferior turbinate and (2) from a superficial ulceration low down on the right side of the septum

The two unusual features were (1) the hemorrhage from the angioma could be controlled only by the complete removal of the tumor (2) the performing of a submucous resection purely for the cure of hemorrhage from the septal ulceration

Otto M Rott

Fein J: Paraffin Injection in Saddle Nose and Ozena (Die Paraffineinspritzungen bei Sattelnasen und bei Ozena) *Wsen med Wchschr* 1914 lx 929
By Zent abt f d ges Chr u i Grenzgeb

Congenital saddle nose or that acquired from constitutional causes such as ozena and hereditary syphilis is well adapted to treatment by injection of cold paraffin

Cases of saddle nose with adherent resistant skin scars or those in which the bony framework has been destroyed by trauma or necrosis are not adapted to this treatment. In these the surgical method of implantation is to be preferred

The dangers of injection are reduced to a minimum by the use of correct technique. The injection is best given just below the tip of the nose in the septum membranaceum because the skin there is very elastic and the opening made by the injection closes immediately. Injection should not be made from the side of the nose. If the needle is inserted just at the midline there is no danger of injuring vessels. Care should be taken also to make the injection subcutaneous for if the needle goes deeper it passes under an aponeurosis which pushes the paraffin aside. Anesthesia is both unnecessary and undesirable because the pain caused by the injection is slight and the form of the nose is changed by the infiltration. Symptoms of inflammation, which occasionally appear should be treated by cold compresses. Displacement of the paraffin is best prevented by pressing the skin firmly against the bone during the injection this also practically excludes the danger of embolism. The results are very durable

Paraffin injection is to be recommended in ozena. The deposit is made in the lower muscle the anterior part of the middle muscle the floor of the nose and the septum. It is best carried out under local anesthesia with 10 to 20 per cent

cocaine. Noses with a thin easily torn mucous membrane are not adapted to this treatment. The injection can be made only when the mucous membrane is tolerably thick and somewhat succulent but in unfavorable cases an attempt can be made by irrigation or by painting with iodine glycerine to make the mucous membrane softer and more elastic and so better suited for the injection

HORNETER

THROAT

Bledert C. G. Affections of the Lingual Tonsil and Their Treatment *Laryngoscope* 1914 xiv 885
By Surg Gynec & Obst

The affections of the lingual tonsil mentioned by the author are simple inflammation and hypertrophy lingual varix tuberculosis syphilis malignant disease mycosis pharyngeus various benign tumors

Lingual varix is of frequent occurrence and gives rise to an irritative cough and later hæmoptosis from rupture of one of the vessels

Simple hypertrophy gives rise to a dry hacking unproductive cough which is worse at night or when the patient lies down. In other cases there will be no cough but the patient will complain of a sense of fullness in the throat or of a sensation of a lump in the throat which can neither be swallowed nor brought up—the so-called globus hystericus. Others complain of a tickling prickling or burning sensation in the throat

For simple hypertrophy the author applies the glycerole of iodine solution—iodine 1 part potassium iodide 2 parts and glycerine 3 parts—every second day for three or four applications. If this is unsuccessful the cautery is recommended or the lingual tonsillectomy. Varix is treated in the same way. Mycosis is treated by application of AGNO₂ 60 gr to 1 oz

Otto M Rott

Schmiegelow E. Operative Treatment of Intra-laryngeal Cancer (Resultat ene af den operative B handling—Laryngofæsur—af den i tralaryngeale Cancer) *H t p Tid Kysbenh* 59 4 1 24, 1935
By Surg Gynec & Obst

Schmiegelow's report on 66 operative cases of cancer of the larynx was presented at the Clinical Congress of Surgeons held in London last July. He emphasizes that in by far the greater number of cases the cancer started in the vocal cords and that cancer originating in this location is more readily and completely eradicated because it induces hoarseness almost from the start and is thus detected early besides the growth is very slow

The prognosis in cancer of the larynx is generally grave but an exception is found in the pedunculated adenocarcinomata growing from the superior aditus laryngis.

Among the author's 66 cases of laryngeal cancer 5 were removed through the mouth and 4 of these succumbed to recurrence death resulted in all the 8 cases treated by tracheotomy in the one case treated by subhyoid pharyngotomy in the 4 by partial resection and in all but one of the 9 by total resection. Of the 33 cases in which the cancer was removed by thyrotomy 18 were cured 5 succumbed to pneumonia and 10 to recurrence. The interval since the operation has been from 10 to 18 years in 4 cases from 3 to 9 years in 9 cases and 2 years in the others. Two of the patients died one from cancer in the rectum and one from cancer in the stomach 8 and 18 years after the operation at the necropsy the larynx was found clinically normal. He compares these results with those reported by Semon 24 cases Chiari 29 and Thomson 10—a total of 96 cases of thyrotomy for laryngeal cancer with 61 survivors for more than a year that is over 63 per cent. 9 did not long survive the operation and 25 died of recurrence. A. Goss

Thelsen C. F. and Fromm N. K. The Use of Normal Horse Serum to the Prevention of Hemorrhage in Nose and Throat Operations. *Albany M. J.* 9 4 xxxv 55

By S. rg. Gynec & Obst

The authors report their results with the use of blood serum before operating in a series of eight cases in which from the history obtained an unusual amount of bleeding was expected but in which there was practically no bleeding after operation. The coagulation time of the blood was determined before and after injection of the serum and in every case there was a decrease in the coagulation time as follows:

1 Male age 27 Coagulation time before injection was 4 minutes. Ten ccm of serum was injected fifteen hours before operation. The coagulation time after the injection was 3 minutes.

2 Female age 9 Coagulation time before injection was 5 1/2 minutes after the injection of 10 ccm of serum the coagulation time was 4 1/2 minutes.

3 Female age 9 The coagulation time was reduced from 4 to 3 1/2 minutes.

4 Female age 10 The coagulation time was reduced from 4 to 3 1/2 minutes.

5 Male age 9 The coagulation time was reduced from 4 7/8 to 3 1/2 minutes.

6 Male age 7 The coagulation time was reduced from 5 1/2 to 4 1/2 minutes.

7 Male age 20 The coagulation time was reduced from 7 1/2 to 6 minutes.

8 Male age 9 The coagulation time was reduced from 6 1/2 to 4 1/2 minutes.

In the last two cases 15 ccm of serum was injected. Thus the average coagulation time of these

8 cases was reduced from 5 1/2 minutes to 4 1/2 minutes.

The authors reach the following conclusions:

1 Considering the comparative safety in the use of the serum and the great lessening of the danger of post operative hemorrhage, it should be used whenever an operation must be undertaken in a subject of the hemorrhagic or hemophilic diathesis.

2 When it is used in such cases prior to operation the operator leaves his patients with a feeling of much greater security and with the probable assurance that he will not be summarily called to the hospital to deal with an alarming hemorrhage.

3 Judging by a search of the literature the much heralded danger of anaphylaxis is practically nil when as in the authors' cases, only one injection of serum is necessary.

Otto M. Rott

MOUTH

Greig D. M. Primary Hypertrophy of the Gums; Reduplication of the Lip. *Ed. n. M. J.* 9 4 iii 317 By Surg. Gynec & Obst.

The author reports three cases seen by him in a general surgical practice and he concludes that the disease is more frequent than his observations seem to show.

It is characterized by hyperplasia of the gums which are apparently normal the crowns of the teeth more or less embedded in the symmetrical and bilateral overgrowth which was more marked in the lower than in the upper jaw.

The gum tissue was firm not tender and had no undue tendency to bleed. The patients all sought relief from the deformity alone two were adults a man and a woman the other was a child. The growth is not of the character of a nevus neither is it allied to the spongy gums of scurvy or to the local manifestation of constitutional disease. It is also distinct from the gums seen in pyorrhea alveolaris and calcific inflammation.

The author thinks it a true congenital hypertrophy although it may not manifest itself until the eruption of the teeth takes place.

It must not be confounded with myeloma, or unilateral hypertrophy which may be general or localized. The treatment was simple and curative viz under an anesthetic a knife was firmly drawn along the gum at its proper level and the strip so marked off was removed from both jaws. The wounds healed readily and there was no recurrence. The author briefly reviews cases reported. He has examined three cases in the Edinburgh Dental Hospital which are representative of this condition but in the cases reported there is some doubt in some of them at least as to whether they were primary hypertrophy or not.

Greig describes what he believes to be a rare disease an overgrowth of seemingly normal gum tissue in which to a greater or less extent the teeth are buried. It leads to no increase the relationship

of gums to the teeth remains in the same proportion. Removal of the gum tissue is not followed by regeneration the gums are of normal firmness and color and the patients have no other abnormality with which such a condition could be in etiological affinity. The author also reports three cases of reduplication of the lips which on account of the deformity or interference with artificial teeth renders surgical relief desirable.

The abnormality is a reduplication of the mucus of the upper lip and may be as large as the lip itself and may be visible only upon talking. This condition is not to be confounded with a hyperplasia caused by an ill fitting denture. Operation is satisfactory the portion to be removed being marked off while the lip is at rest.

II A. PORRIS

Levy M: Radium Therapy in Dentistry (Radium therapy in der Zahnheilkunde). *St. Med. Woch.* 1914 1: 23. By Surg. Gyn. & Obst.

Radium treatment in dentistry may be applied in two ways either by local applications of solid radium salts or by local or internal applications of emanations. Malignant tumors of the mucous membrane of the mouth are quite frequently refractory or may even grow worse. Good results are sometimes obtained in inflammatory processes of the mucous membrane of the mouth and jaw in pyorrhea alveolaris, acute and chronic pulpitis, as an analgesic insensitive dentine and also in epulis

leucoplakia, aphthous stomatitis and desquamation of the mucous membrane.

The author has given short irradiations with tubes and longer irradiations with radium compresses. He has had good results with these in local inflammatory processes, marginal gingivitis, stomatitis, epulis, ulcers and leucoplakia of the tongue, less favorable ones in pyorrhea alveolaris. In the latter condition the emanation treatment is best because of its stronger bactericidal effect and its specific effect on the body ferments. Radium emanations as well as thorium emanations in the form of thorium X can be used. It is used in the form of douches which produce hyperemia of the mucous membrane and also activation of the saliva. Treatment may also be given in the form of irrigations, injections, insertion of radium carriers in the pockets of the gums and massage with radium paste. These methods have given very satisfactory results in psoriasis of the mucous membrane, gingivitis, stomatitis, pyorrhea alveolaris, leucoplakia of the mouth, fistulae of the teeth, acute suppuration following infection and infected extraction wounds. Pyorrhea alveolaris is very frequently the result of a constitutional process.

Levy calls especial attention to the fact that a latent gout can often be demonstrated by uric acid examination of the blood, therefore a drink or inhalation treatment with emanations is recommended with general treatment.

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3 Female age 9 The coagulation time was reduced from 4 to 3.5 minutes

4 Female age 10 The coagulation time was reduced from 4 to 3.5 minutes

5 Male age 9 The coagulation time was reduced from 4.75 to 3.5 minutes

6 Male age 7 The coagulation time was reduced from 5.5 to 4.75 minutes

7 Male age 20 The coagulation time was reduced from 7.25 to 6 minutes

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In the last two cases 15 ccm of serum was injected Thus the average coagulation time of these

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SURGERY OF THE CHEST

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In the April issue of the INTERNATIONAL ABSTRACT OF SURGERY will appear a Collective Review on the Bacteriology of the Urinary and Male Genital Organs Not Including Tuberculosis by Dr Irvin S. Koll of Chicago. In the compilation of this review Dr Koll has utilized the literature both American and foreign which has appeared on this subject since 1907.

The importance of the various predisposing factors to infection are discussed in detail together with the theories presented by the various authorities. Finally for the convenience of those desiring to utilize the bibliography this is grouped according to the anatomical classification of the subject matter.

Other collective reviews to be published during the next few months are

Mechanism of Fracture	FRANK RIXFORD M.D. San Francisco
Thrombosis in the Venous System	ARTHUR K. SMITH M.D. Cleveland Mich
Tuberculosis of the Genitourinary Tract	J. H. CANNAN JR. M.D. Boston
Cancer of the Mouth	A. I. BLAIR M.D. St. Louis
A Comparison of the Results of Conservative and of the Surgical Management of Tetanus	RENE PETERMAN M.D. New York Mich
Surgery of the Bladder	J. BENTLEY SCHERER M.D. New York
The Use of the High Frequency Current in Treatment of Tumors of the Bladder	HENRY C. BLOOM M.D. New York
Röntgenology of the Cancer	A. W. CRANE M.D. Kalamazoo Mich
Uterine Hemorrhage	EDWARD FINDLEY M.D. Omaha Neb
Cancer Treatment with the X-Ray and Thermocautery	CAROL A. FISCHER M.D. Chicago
Epilepsy	ELMER H. FOLEY M.D. New York
The Status of the Operation of Tumor	A. D. LEVINSON M.D. Chicago
Intestinal Obstruction	HARVEY B. STONE M.D. Baltimore
Blood Pressure and Its Relation to the Duodenum	J. F. SWEET M.D. Philadelphia
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The Surgical Treatment of the Douloureux	LENA MAYS M.D. New Orleans
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INTERNATIONAL ABSTRACT OF SURGERY

MARCH 1915

COLLECTIVE REVIEW THE NEWBORN

REVIEW OF LITERATURE FROM JANUARY 1912 TO NOVEMBER 1 1914¹

By CLIFFORD G. GRULEE, M.D. AND JAMES PATTERSON, M.D. CHICAGO

I GENERAL

- (a) Infant Mortality
- (b) Anatomy
- (c) Physiology
- (d) Hygiene and Nutrition

II DISEASES AND CONDITIONS PECULIAR TO THE NEWBORN

- (a) Asphyxia
- (b) Icterus
- (c) Skull Injuries
- (d) Ophthalmia Neonatorum
- (e) Hemorrhagic Diseases
- (f) Bull's Disease

III INFECTIONS

- (a) General Considerations
- (b) Acute
- (c) Chronic

IV CONSTITUTIONAL AFFECTIONS

- (a) Heart and Lungs
- (b) Gastro-Intestinal Tract
- (c) Nervous System
- (d) Genito-Urinary System
- (e) Skin
- (f) Thyroid and Miscellaneous

I GENERAL

(a) INFANT MORTALITY

CHALMERS states that one-third of the deaths in infants in the first year of life occur under one month of age and that one-half of the deaths occurring in the first month occur in the first week. In other words one-sixth of all deaths occurring in the first year of life occur in the first week of life. He states however that two-thirds of the babies who die in the first week of life die of causes suggesting cell deterioration in the antenatal stage. These babies are therefore born to die and thus much of the infant mortality must be ascribed to antenatal influences.

Koplik in general agrees with Chalmers that prenatal influences are largely to blame for this high mortality in the early weeks of life. He considers the mortality of the first four weeks

of life from the following standpoints: (1) infants born prematurely and congenitally weak though free from constitutional disease such as syphilis; (2) infants apparently free from disease but who fall below a definite standard of weight including all stillbirths occurring without accidental birth complications; (3) stillbirths which result from accidents in delivery or from instrumental interference; (4) infants who are born of good weight, viable and free from constitutional disease who die of some acquired affection or condition of life into which this class of infants is born—that is their legitimacy or illegitimacy is a great factor in the continuance of life and also whether they are born in poverty or are surrounded by all the necessities of life is another influence to be fully considered; (5) infants who are born prematurely of good weight

¹ So far as possible the writers collected all of the literature on this subject for the period here mentioned. Doubtless some publications have escaped their notice and it has been thought wise in certain instances to include in this review writings which appeared shortly after the close of the year. Following the text will be found a complete list of references grouped under various headings to correspond with the letter outline here given.

usually appear in large infants and have been regarded simply as premature eruption of the teeth. The condition seems to be especially frequent among the South American Indians. It is to be noted that many cases are accompanied by gingivitis; this is possibly an inflammation of the dental follicle but no definite evidence has been presented by examination of the follicle. Some writers regard the condition as teratologic.

They report 3 cases 2 of which were exactly similar. At birth no teeth were found. The next day when the children were put to the breast a lower incisor tooth was discovered on the third day the corresponding lower incisor pierced the gum. In each case the teeth were extracted because of the pain to the mother during the nursing period. Apparently the extraction caused little or no pain but was accompanied by a drop of blood. The cavity left was obliterated in two to three days. Each tooth had a slender soft root. No other malformation was noted and the children left the clinic on the fifteenth day and were lost track of.

The third case was that of an infant which had a cyst of the right iris. At birth it had two inferior median incisors; these fell out spontaneously three weeks after birth. There was no hemorrhage and no inflammatory swelling of the gums. At 6 months another median inferior incisor erupted but lasted only a short time and the second incisor did not appear.

On examination the teeth were found to be well formed but the pulp was in a connective tissue rich in cells especially lymphocytes and leucocytes with many bacteria abounded at different points. Balard and Commes conclude that they had to do with teratomata undergoing degeneration and inflammation of bacterial origin and believe that these teeth are true teratomata in all instances.

Herpin reports a case where a tooth was present at birth. The tooth was mobile and had an embryonal dental bulb. In parts the enamel cap was well formed but in other places it was irregular and contained lacunae. In this case there was no connective-tissue formation about the bulb thus eliminating the idea of a buccal inflammation as the causal factor. Herpin states that this was evidently an ectopia of the dental gum possibly the presence of teeth in the newborn represents an atavistic tendency.

Debeque has collected 20 cases from the literature. He divided these into two classes: (1) those which are true milk teeth prematurely erupted; (2) those which present anomalies of

form color and consistency and fall out in a few days or weeks. These in no way play the rôle of the temporary teeth.

Wilson in speaking of tonsils in childhood states that the palatine tonsils are present in all mammals excepting the rat and the guinea pig and they always communicate with the pharynx. They develop from the endothelium of the second branchial pouch and around these ingrowths the lymphoid tissue of mesothelial origin forms giving us the normal lymphoid picture of the organ. The tonsils begin to develop about the fourth month of embryonal life and reach maturity at the end of the first year of infancy.

In speaking of the morphology of the blood Gundobin gives the following table of 8 newborn

Time of Taking Blood	N of White Cells	Young Cells		Mature Cells		Over Mature Cells	
		Absol.	Per cent	Absol.	Per cent	Absol.	Per cent
From umbilical							
Immediately after birth	8,000	7,000	44	850	9	8,460	47
6 hrs post partum	8,000	4,400	33	3,600	3	390	64
4 hrs post partum	1,000	4,150	20	500	3	500	68
48 hrs post partum	1,000	3,000	8	300	2	2,400	68
5 days post partum	9,000	3,000	8	1,000	10	3	60
7 days post partum	8,500	700	3	600	8	500	60
	1,000	1,500	3	3	3	400	38

It is seen that at birth and immediately thereafter the white cells are twice as numerous as during the remainder of infancy but the fifth day the number is reduced below the normal but returns again by the seventh to the tenth day.

As to the red blood-cells he states: (1) The size varies between 3.25 and 20.25 microns in diameter. (2) They take up moisture more quickly than those of the adult and react differently to reagents. (3) Hemoglobin is not so permanent a combination. (4) The cells contain more stroma. (5) Nucleated red blood-cells are often seen. (6) Microcytes are more frequent in the newborn than later in infancy. (7) There is very marked variation in the total number of red blood cells during the 24 hours. According to various authors the total number of cells varies from 4,500,000 to 8,300,000. On the fifth to the seventh day the total number of red blood-cells is very unlike in different cases but tends to decrease 500,000 to 800,000.

Asphyxia as well as late tying of the cord increases the number of red blood-cells to a marked degree. He gives the following table in regard to the hemoglobin content of the blood of the newborn.

As to the liver in the newborn Gundobin gives the following report Number of boys 8 average body weight 3 164 gms weight of liver 148 8 gms number of girls 15 average body weight 3 109 gms weight of liver 166 1 gms

As to the anatomy of the kidney the same writer states that the convoluted tubules are relatively but slightly developed and that the peripheral layer is lacking The malpighian bodies are 72 to 160 microns in diameter Some of them lie directly beneath the capsule The vascular knot is divided into 3 to 5 parts and is lined with cubical not squamous epithelium He gives the following dimensions for the kidneys two cases of newborn body weight 3,000 gms kidney weight 11 to 12 gms length 4 2 cm breadth 2 2 cm and thickness 1 8 cm

In 700 autopsies in which 39 per cent of the children were born alive 26 per cent showed uric acid infarct. In another set 42 per cent showed uric acid infarcts

Miura has found large deposits of glycogen in the cells of the convoluted tubules of the kidney

Gundobin in speaking of the special characteristics of the eye of the newborn gives the following differences from the eye of the adult (1) The sclera bulges in the posterior outer quadrant (2) The position of the fovea centralis deviates strongly outside the posterior pole of the eye and does not lie on a plane with the papilla of the seventh nerve (3) The greater thickness of the cornea (4) The extremely shallow anterior chamber (5) The nearly conical form of the lens

He gives the following table for the weight of the brain and its various portions

Boys	300-4 5 gms
Girls	83 400 gms
	Boys G
Weight of total brain	785 550
Midbrain	389 354 5
Cerebellum	8 6 8
Medulla oblongata	3 20 5
Medulla spinalis	5 6 5 8

As to the topography of the umbilicus in the newborn Kaluschin gives the following statistics in regard to the proportion of the infra-umbilical length to the total length

Weight 800 to 2,000 gms — 130 cases — 46 7 per cent weight 2,000 to 3,000 gms — 597 cases — 47 per cent 3,000 to 5,000 gms — 1 792 cases — 47 3 per cent general average 46 9 per cent It is interesting to note that in the breech cases in infants weighing over 2,000 gms the infra-umbilical length was 0 5 to 0 7 per cent greater than in head presentations.

In examination of the axillary sweat-glands of 18 full term or nearly full term babies born of albuminuric or eclamptic mothers Fossati found degeneration of the parenchyma which ranged from cloudy swelling to necrosis The conditions of the mothers were as follows 6 cases of nephritis of pregnancy 10 of eclampsia and 2 of chronic nephritis

In testing the porosity of the bone Toppich uses two methods one by maceration and the other by estimating weight and volume He estimated the substance volume by dividing the absolute weight by the specific gravity The porosity volume equals the bone volume — the substance volume — and the porosity is equal to one hundred times the porosity volume divided by the bone volume His results are shown below

	Humerus	Scapula	Pelvic Bones	Femur	Tibia
Newborn	6	57 8	6 6	64 63	6 80
Man 2 years old	58 6	4 00	5 3	59 00	35 80
Man 8 years old	66 8	18 63	77 04	7 00	73 70

The skeleton of the newborn is therefore more porous than that of the adult He estimated in this way that the red bone-marrow which fills the porous portion of the bone is 67 37 per cent of the volume in the newborn The weight of the spleen in 3 infants averaged 6 4 gms and the volume 6 033 cc The volume of the bone-marrow is therefore 11 3 times that of the spleen The bone-marrow is richest in the skull and next in the pelvis and lower extremities

Stratz gives the following diameters of the skull of the newborn Anteroposterior 11 75 cm. lateral 9 25 cm chin to occiput 13 5 cm The face grows more than the vertex in the adult while the anteroposterior diameter grows 5 cm and the lateral 6 25 cm that from chin to occiput grows 9 cm

In giving characteristics of the skull of the newborn Gundobin states that the skull cap is to the facial portion as 8 to 1 — in the adult as 2 to 1 All bones of the base are connected by rather broad synchondroses The foramen magnum lies behind the middle point of the base as it does in the adult The sutures at the vertex are joined by slight fibrous membrane For the size of the large fontanelle he quotes the statistics of Nikl foroff For boys average diameter 4 2342 cm maximum 5 9340 cm minimum 3 1605 cm For girls, average diameter 3 6685 cm maximum 5 9945 cm minimum 2 7735 cm

Freligh takes up the temporal bone and its anomalies in 150 cases of the newborn The bone is one-fourth the size of the adult bone The squamous portion shows no external markings

temperature as much as 1 to 2 C. The bath also has the same effect. Very marked reduction in temperature often follows christening. The early variations in temperature are on an average from 0.3 to 0.7° C. In taking the temperature Gundobin favors the use of a thermometer which has previously been made to register 40° C. He does not approve of taking rectal temperature but does approve of taking axillary. The clinical importance of the temperature of the newborn is great because marked variations are usually a sign of some pathologic process.

Miura has gone into the question of warmth regulation. He states that in the newborn the heat is withdrawn from the smaller circulation by the trauma of birth the skin of the child becomes hyperæmic and in this way much heat is lost.

Apert finds that at the time of birth the child's temperature differs from that of the mother by 0.2 to 0.3 C. It then begins to lower and drops 1.2 or 3 depending on the amount of exposure to which the child is subjected. The greater the prematurity the more marked is this reaction. The reason for the higher temperature in the child immediately after birth is probably because the intra-abdominal temperature in the mother is at least that much greater than the rectal. The time after birth when the temperature returns to normal after the original drop varies between 10 and 40 hours. For a long time the newborn infant remains monothermic. This is especially true of the child raised on the breast. The artificially nourished infant is more apt to show an evening rise.

Devillers, in examining 21 infants has come to the same conclusions as Apert. He states that in the infant the temperature curve is variable and irregular in the newborn the temperature is frequently subnormal. In the first five hours of life obstetrical trauma may produce elevations in temperature. Subfebrile temperature gives a grave prognosis. Subfebrile temperature broken by sudden rises and sudden falls, is equally grave. If however a sudden rise is followed by a return to normal the prognosis is good.

Schutt in 200 cases found no instance of fever in the newborn. He believes that if such is present it is due to dyspepsia. At the end of weight decrease the temperature is within normal boundaries in 97 per cent of cases.

As to the weight of the newborn Kaul states that the duration of labor is long in a large percentage of cases where the babies are very large. In the gynecological clinic at Breslau the large majority of children weighing over 4,000 gms. at

birth were boys and 75 per cent of them were children of multipara. A pregnancy duration of more than 302 days was probable in 6 per cent of the cases.

Bondi after examining the placental fat and the fat in the liver of fetuses came to the conclusion that the condition of the fœtus is altogether independent of the nutrition of the mother and its growth like that of a malignant tumor is independent of the state of nutrition of the bearer. In 114 cases he could observe no effect from the nourishment which the mother took. The factors which influence the size of the child according to Bondi are (1) heredity (2) age of the mother—older women bear heavier children and (3) accidents in pregnancy diseases etc.

Peller on the other hand thinks that the social condition is a most important factor in the birth weight. This conclusion is based on the observation of 5,487 newborn from a clinic and from a sanitarium. He finds that children born of parents in a superior social condition are heavier than others and ascribes this to better diet and hygienic conditions. He thinks that this is a greater factor than any other of those commonly mentioned. He takes issue with Bondi at all points. Bondi however reiterates his statement that the weight of the newborn is not dependent on the diet of the mother.

Hanson in summing up the factors which influence the weight of the newborn comes to the following conclusions: (1) The weight of the newborn is greater in the country than in the maternity hospitals. (2) The weight of the newborn increases with the age of the mother and the number of births. (3) Children of multipara are larger if the mother as a primipara was 30 to 34 years old. Young mothers have children steadily increasing in weight but the increase is not so great. (4) The weight of children of well-to-do mothers is greatest. (5) Illegitimate children are always smaller than legitimate. (6) The weight of the newborn is greatest in the fall and lowest in the spring.

Trepper in stating the weight decrease in 453 cases comes to the following conclusions: (1) The proportionate weight decrease is greatest in weak and premature children and lowest in those of average weight. It then increases with increasing birth-weight not only absolutely but relatively due in large measure to instrumental deliveries. (2) Because of greater weight decrease obstetrical operations hold no especial danger to the children however the same in general does not hold good for maternal disease during pregnancy but more frequently there is present the

Mensi in tracing the radial pulse found the ascending and descending wave with a rounded apex.

Hellm states that the blood serum from the umbilical vessels of the newborn is opalescently cloudy and has a rather greenish tinge. This is true of the venous blood of the pregnant woman and of the blood from the vagina during labor. The serum of the newborn gives cloudiness with normal salt.

Fleisser estimated the coagulability of the blood of the newborn by a modification of the Wright method. The modification consisted in the deposition of the clot from the tube into a linen cloth and observing the coagulum and the time when found. By the use of this method in 50 observations during the first week of life he found the average time of coagulation to be 8 min 15 sec and the variation from 5.5 to 13.5 minutes with the exception of 10 cases the variation was between 7 and 10 minutes. In 50 observations during the second week the average was 8 min and 10 sec. In 92 cases of icterus neonatorum the average was 11 min 40 sec to 9 min 13 sec but as high as 21 min and as low as 7. After a month to six weeks the average was 7 min 40 sec. In a case of umbilical infection and purpura the time was 23 minutes. In one pair of twins the time was the same while in another one twin showed 6.5 minutes the other 9 minutes. Dyspeptic erythema local and universal eczema early rickets pemphigus neonatorum and cephalhematoma had no influence.

Rabinovitch examined the blood for amino acid. The blood was taken from the cubital vein of the mother and from the umbilical artery and vein of the child. The mother blood contained 8 to 11 mg of amino acid nitrogen to 100 ccm. In the maternal blood of the umbilical artery there was 37 mg per 100 ccm in the fetal blood 100 to 137 mg per 100 ccm.

Hermann and Neumann found that the entire fat content of the blood of the newborn was 4.165 gm per kilo cholesterol 0.7811 gm cholesterol ester 0.1411 gm and of palmitic acid cholesterol ester 0.2268. There was a relatively smaller quantity of total fat cholesterol and neutral fats than is contained in the blood of a normal woman. It should be noted here that the fat content of the blood of the pregnant woman is much greater than in the normal.

Menéndez found two abnormal types of respiration in the newborn the remittent and the intermittent these variations can occur without an increase in respiratory

Niemann speaking of gas metabolism in the newborn states that it may have a peculiar position and appears to be lower than in later infancy. Further research is necessary with special arrangements and technique in order to judge the position properly.

Uffenheimer has taken up digestion in the newborn. As to the oral cavity the reaction is neutral or occasionally weakly alkaline. Acid reaction is probably caused by destruction of the milk curds. Bacteria are present during birth among them are frequently found streptococci and occasionally pneumococci and colon bacillus.

The saliva is formed immediately after birth and digestive ferments are present in the stomach. The fat-splitting ferments are present at least as early as the second week of life.

The pancreatic secretion is found in the small intestines in the newborn. The fat-splitting ferments are present in all cases while the lactic ferment is only slightly developed.

The liver of the newborn has the ability to form glycogen and urea in the presence of ammonia it also has a protective action against poisons. The bile is already formed in fetal life. Lactase maltase and invertin are found in the intestines of the newborn. Bacteria are found in the intestine within 24 hours after birth.

In regard to the secretion of saliva Allen states that the quantity is one tenth to one fifth the amount of milk taken.

As to the gastric secretion in the infant at birth Hess finds that in all newborn before any food is ingested free hydrochloric acid is present in a considerable amount rennin and pepsin are also to be found. The secretion of hydrochloric acid continues almost uninterruptedly for many hours whether food is taken or not. Occasionally (1 in 55) there is complete absence of hydrochloric acid while in other instances the hydrochloric acid may be very much reduced. In one case hypersecretion was noted. The presence of hydrochloric acid in the stomach of the infant immediately after birth cannot be accounted for by any of the hypotheses so far advanced. While the gastric secretion is so marked in the newborn the duodenal and pancreatic secretion is scanty.

Schmidt examining the intestinal ferments found in the meconium came to the following conclusion:

1. A distinct amylolytic action was present in meconium from all regions but was very small in amount.

2. All portions of meconium split with

was perhaps lightly increased in the lower part of the bowels. Calcium phosphate was also present in four cases examined.

As to the plasm of proteins the action of the gastric content was much greater than that of the meconium. The pepsin quantity in the stomach was marked. This was in the form of propepsin since this was not acted with out the addition of hydrochloric acid. The same may be said for the trypsin ferment. Trypsin was present but erepsin was found. Lipolytic ferment was found in the meconium of 4 cases examined.

Oxidases were absent, peroxidases and catalases were present. He states that there is a diastase present in the gastric content in a majority of cases, the source of which is not clear but it is probably from the saliva.

Muir states that air is drawn into the stomach and intestines with inspiration and that from this source the bacteria in the meconium develop.

Kocumora on examination of the intestinal flora in the first 30 days of life in 3 cases comes to the following conclusions: (1) On the first day the meconium is aseptic. (2) The bacteria arise successively increasing in quantity and in variety. (3) The virulent forms do not rise until the fifth or sixth day. (4) Bacilli predominate over cocci.

Mayerhofer has taken up the question of the urine in the infant and incidentally in that of the newborn. His collected abstracts contain most of the knowledge extant on the subject. As to the specific gravity he finds that on the first day it is between 1.006 and 1.012, on the second to the fourth day 1.008 to 1.013. It then rises slowly. It is interesting to note that the urine voided during the immediately after birth has a low specific gravity. As to the quantity of urine he gives the following table:

	Heinz	Schiff	Reisinger	Andersson	Urine per 100 g of body weight
1st day	4.8	7	1	20	
2nd day	9.7	1	1		
3rd day	8		16	66	
4th day			24	7	
5th day	204	7	3		46.8

In a large percentage of cases no urine is passed the first day and in a small number of cases none is passed even for as long as four days. Strong babies excrete earlier and more than small weak ones and the infant of the multipara earlier and more than that of the primipara because the milk flows earlier and more richly in the multipara. Tea or water increases the amount of the urine. A deficient diuresis may be due to renal calculus. Sometimes the bladder function is lacking and there is retention of the urine with

distention of the bladder. This may be due to irritation from a stimulant to tetany. The urine of the newborn is very toxic.

As to phosphorus it is to be found in the very first urine passed but it is extremely small in amount. After the second day it increases up to the third or the eleventh day and then falls. Inorganic salts are present during the first 6 days to the amount of 7.14 to 24.5 mg. Sodium chloride increases from the fourth to the tenth day while urea decreases with the increase of the urea after the tenth day the calcium chloride decreases. Operative births are frequently followed by glycosuria which disappears on the third or fourth day. Glycuronic acid may be present in rather large quantities on the first day of life before the ingestion of food. In lacta it usually licks on the first day and is rare on the second but increases on the third and fourth and then decreases. Its presence is due either to putrefaction of meconium or to a product of abnormal tissue destruction. He gives the following table as to ammonia, nitrogen and amino acid nitrogen in the urine which shows that glycosuria increases up to the third day and then finally decreases.

	Ammonia (mg)	Ammonia (mg)
1st day	1	1
2nd day	6	7.1
3rd day	10	3

The quantity of urea varies within wide bounds. At first it is very slight and increases with each day. The urea excretion begins in intra uterine life and is enhanced by the presence of urea in the amniotic fluid. The quantity of urea is shown in the following table:

	Schiff	Reisinger	Andersson	Urine per 100 g of body weight
1st day	2.0	7	1	20
2nd day	10.2	1	1	
3rd day	10.2	1	1	

The quantity of uric acid is shown in the following table:

	Uric acid (mg)	Uric acid (mg)	Uric acid (mg)	Uric acid (mg)	Uric acid (mg)	Uric acid (mg)	Uric acid (mg)	Uric acid (mg)	Uric acid (mg)
1st day	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2nd day	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
3rd day	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4th day	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5th day	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6th day	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
7th day	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
8th day	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
9th day	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10th day	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

The excretion of uric acid is highest on the third to fourth day and slowly sinks after that. Birk found a greater variation and thinks that in artificially nourished newborn infants about one-

half of the ingested nitrogen is excreted in the urine as compared to one-sixth to one-seventh in the breast fed. Nor was Birk able to recognize the purine bases except in large quantities of urine.

Acetone bodies may be present in the form of acetone in small amounts in the undernourished newborn but diacetic acid and β -oxybutyric acid are never found.

Ten per cent or more of the nitrogen of the urine of the newborn breast fed infant is due to creatinin. Urobilinuria has been found.

As to albuminuria Mayerhofer found that almost all infants show a slight quantity of albumin in the first days of life. This is greatest on the first to the third day and there may be traces in the second week. Immediately after birth the urine is almost always free from albumin.

Jehle thinks that this may be a lordotic albuminuria since the child changes its kyphotic *in utero* position for a lordotic one at birth.

Franz and von Reuss have studied very carefully the question of albuminuria in the newborn. Their examinations were carried out on diluted filtered slightly warmed urine on which the acetic acid test was made. To the filtrate of this was added a small amount of serum albumin and the potassium ferrocyanide test made.

Their experiments were carried out on 70 newborn babies, and in the great majority of cases in the first days of life an albumin excretion was found but in the foetal urine no albumin was found. In one-half of the cases there was a slight clouding with acetic acid; in one-third there was clouding after the addition of serum albumin and in only one case was there clouding with ferrocyanide. During the first day of life the albumin increased in 68 per cent of the cases. They believe that the albuminuria is due to circulatory changes but do not agree with Jehle's idea of a lordotic causation since in 5 cases where the child was placed in a posture simulating the position *in utero* there was no difference from the normal as to the presence and persistence of the albumin. Usually the albuminuria lasted about three days.

As regards sugar they could recognize no glycosuria and they think that glycosuria in the newborn following the use of forceps occurs only in exceptional cases.

They also examined the urine for nitrates, nitrites and indican. A test for glycuronic acid was made with Lunge's reagent—diphenylamin. In only 5 cases in the first days of life did they get negative results. They regard the presence of glycuronic acid as the result of irritation of the nourishment on a sensitive intestinal mucosa.

In testing for indican Jolles' modification of Obermayer's test was used. Of the 31 cases tested only 2 gave negative results. The strongest reactions for glycuronic acid and indican occurred during the irritation catarrh of the first days of life.

Gudden tested the pupils in the newborn in a sleeping infant and found that the pupils dilate 2 to 2.5 mm. They dilate slowly on wakening and do not measure more than 3 to 3.5 mm.

Canestrini thinks that at birth the infant can hear. As to sensation of touch temperature and pain a current of 10 ma failed to show any increase of pulse or respiration. It reacts more to cold than to heat. The skin of the face especially the lips is the most sensitive. He could not determine a sense of smell. The sense of taste is very well developed.

(d) HYGIENE AND NUTRITION

The articles of Clark and Fraser offer nothing new in the care of the newborn except the treatment of the cord as favored by Fraser. He believes in an early free application of alcohol the cord being then covered with a powder consisting of salicylic acid 15 gr, boric acid 25 gr, zinc oxide 2 dr and starch to make an ounce. He endeavors to determine the relative values of the different methods of treatment of the cord.

Petermoller finds that in 795 cases treated by the application of sterile vaseline on dressings 15 or 17 per cent showed some variation from normal. Of these 5 showed granuloma and 10 infection. Later he improvised the following method. A clamp was applied close to the ring and left there for 10 to 20 minutes the cord was then cut and dry dressing applied. In 98 cases of this sort no complications in the way of diseased conditions were to be noted but in 18 cases there was hemorrhage of which 17 were slight and stopped with pressure but in one case it was necessary to apply a ligature. He then tried this method together with tying of the cord. In 433 cases he had no hemorrhage and only 3 cases of umbilical infection. After trial with various antiseptics the child being given the daily bath, it was found that the simple dry sterile dressing was equal to the best and that with it the cord separated as early as with any of the other methods—about 6 days. In cases where the infants were not bathed but simply washed and a permanent dressing applied the best results were obtained with infusorial earth—4.5 days. He adds the following method.

Tie the cord a hand's-breadth from the body bathe the infant and then tie the cord 1 cm from

the body apply a dressing thickly covered with infusorial earth cover with dry gauze strips and place on binder cover this with some impenetrable material put on another binder allow the binders to remain until the cord separates and in place of the daily bath wash the different portions of the body separately

In regard to feeding the baby Wolf advises that no food be given for the first 24 hours During the second day the child is nursed once or twice in order that it may obtain colostrum to clear out the meconium—water is given On the third day the child is nursed three times on the fourth day four times on the fifth day and the following days, every 4 hours in the daytime but never at night the child being fed at 6 and 10 a m and at 2 p m

In regard to the nutrition of the newborn Jaschke believes that it is possible for 100 per cent of the mothers to nurse their own babies but that it is necessary if one wishes to accomplish this to have a special person to care for all their need Of great importance is the colostrum This can not be replaced physiologically by milk of a wet nurse Chemical differences are marked The babies who get colostrum do better than those who do not provided the babies are physiologically nourished in spite of weight decrease the nitrogen balance is positive As to the time of nursing he unqualifiedly supports the four hour interval that is four times during the day and once at night He believes in general that the interval between birth and the time when the child regains

its birth weight is not a good criterion by which to judge of its condition but thinks it better to take into consideration the general condition of the child

It is interesting to note however that among those of his cases which attained their original weight between the seventh and twelfth days the number was 10 per cent higher among those fed at four hour intervals than among those fed oftener It is not so much the rapidity with which the loss is regained but rather the steadiness of the gain in weight after it once begins that is the best criterion for estimating the normality of the newborn infant so far as its nutrition is concerned The uniform weight loss in 100 varied from 15 to 17 per cent in 89 of these it was no higher than 10 per cent Abnormal losses of weight are usually borne without affecting the future development of the child

In icterus neonatorum in spite of the fact that the infants obtained a much food the weight increase was much more gradual In overfed infants one must be cautious about complete withdrawal of food because they often react with a very marked drop in weight In every case in the first two to three weeks of life overfeeding is much more to be feared than underfeeding

As to undernourishment the lighter cases need no special care one should always remember in this connection the exudative diathesis In Jaschke's cases he has never been able to discover the infantile fever but thinks that all such fevers are due to slight intestinal catarrh

II DISEASES AND CONDITIONS PECULIAR TO THE NEWBORN

(a) ASPHYXIA

A peculiar form of asphyxia has been reported by Hjort Death occurred in an 8-day old infant 12 hours after the first symptoms of a phylaxis Autopsy showed that death was evidently due to asphyxiation In the bronchi gray white fluid was found which was unquestionably mother's milk This may be a more frequent source of asphyxia in the newborn than has been suspected

Manon in speaking of asphyxia calls attention to the fact that asphyxia of the livida type may be due to intracranial hemorrhage

Much has been written about the treatment of asphyxia in the newborn The procedure suggested by La Rue is certainly ingenious if it is attended by success He designates it heart massage He used it in 9 cases in 7 of which he could not perceive the heart tones All cases recovered The procedure is as follows

The infant is placed on its back in a basin filled with water at 110 to 112 F the body is completely covered with water with the head supported The body is grasped with both hands the thumb being on the anterior surface of the thorax The thumb of the left hand should cover the third intercostal space almost against the border of the sternum the right thumb being in the fourth intercostal space in the mammary line Pressure with the right thumb empties both ventricles then with the left thumb the auncles are emptied This should be done alternately and at the rate of 100 times per minute

Sakaki suggests the following procedure After the mucus is removed from the throat the child is grasped by the shoulders the chest being projected forward with the index finger in the axillae and the thumbs propping up the chin The child is then moved rapidly up and down 120 to

150 times per minute the flaccid dependent position of the child's body being held by an assistant. After the first inspiration the child is grasped by the feet and the mucus removed from the mouth. The same procedure is then gone through. This may be repeated several times this is all done before the cord is cut.

Several pulmotors have been described for use in asphyxia in the newborn. For a complete description of these we must refer the reader to the originals. Fry, Edgar and Engelmann have described different forms for use. Engelmann states that his apparatus and method of resuscitation is to be preferred to any other in cases of asphyxia neonatorum and may be used with perfect safety.

Very interesting is the report of Paul and Jean Delmas. In three cases of asphyxia they used the method of Planchu. This consists of artificial respiration produced by pressure on the chest with the thumb which gives a passive inspiration at which time oxygen is forced into the lungs from a bag. In one of their cases oxygen was also given subcutaneously.

(b) ICTERUS NEONATORUM

In regard to the effects of the various birth factors of icterus neonatorum Bedier brought forth the following statistics in 37 cases of icterus and 35 normal newborn. In 19 cases the mothers of the icteric infants were primiparae and in 18 multiparae of the normal 14 and 21 respectively. Of the icteric 18 were born at term and 19 were premature of the normal 26 at term and 19 premature. The weight of the icteric children in 18 instances was above 3,000 gms. and in 20 below of the normal 26 times above and 10 below. The weights were given as follows: From 1,000 to 1,500 gms. 1 icteric and no normal; 1,500 to 2,000 grams, 3 icteric and no normal; 2,000 to 2,500 8 icteric and 3 normal; 2,500 to 3,000 8 icteric and 7 normal; 3,000 to 3,500 12 icteric and 18 normal; 3,500 to 4,000 3 icteric and 5 normal; above 4,000 3 icteric and 3 normal. It is evident from these statistics that babies with small birth weight have a distinct tendency to icterus.

Jachke finds that in all of his cases of icterus in the newborn there was reduction of the haemoglobin and the red cells and therefore we must speak of a haematogenous element in the etiology of icterus neonatorum. Pironneau believes the same.

Schmitz finds that haemoglobin values were lower the higher the degree of icterus. This held true also of the white cells but there was no difference in the proportionate number of the

various white cells. Nucleated red cells were more frequent than in the normal infant.

Gorter examining the blood found that in 20 cases of icterus neonatorum resistance of the chromocytes to salt solution was not lowered in some cases it was increased. He could not recognize haemolysins nor amoebocytes. In all cases he found bilirubin and lutein.

Maliwa examined the blood from the umbilical vein of the newborn for haemates granuleuses of Demel. This is done in the following manner: On a carefully cleaned dried and warmed cover glass is put a thin layer of brilliant cresyl blue solution 0.1 per cent alcohol. The coverglass with the drop of blood is gently put on this in such a way that the blood spreads out evenly and dissolves the stain.

The number of haemates granuleuses found in this way in the newborn was certainly greater than among adults and this was especially true in icteric children where the number of this type was in excess of those found in non icteric. No definite boundaries can be determined but as a rule where the percentage in young children was less than 2 no icterus occurred. The increased number of these sank to normal in 2 to 3 or at times 4 days. The icterus begins with the rapid decrease of these cells in the blood. He thinks that by the rapid destruction of these cells there is a sudden increase of material from which biliary coloring matter may be formed which overtaxes the excretion energy of the liver cells. So much in support of the haematogenous theory of icterus neonatorum.

Much of great importance has certainly been written in support of the hepatogenous theory. Hess by use of his duodenal catheter in the newborn brought forth the following table:

No. of Cases	Age	% Bile	Bile	% of red jaundice
1	5 to 10 hours	5		
2	1 to 36 hours	5		
	1 to 3 days		20	6
	3 to 5 days		0	0
	5 to 8 days		20	5
	8 to 10 days			

In 24 cases in which a careful study was made as to the relation of bile to jaundice in not a single case was bile obtained previous to the appearance of jaundice. There was a marked parallelism between the amount of bile and the degree of jaundice. The ingestion of colostrum had no influence on the flow of bile. He sums up his results as follows:

Tests by means of the duodenal catheter show that bile is very rarely excreted during the first

12 hours of life it was obtained but once in the course of 52 tests. Bile excretion during the subsequent 24 hours is variable in cases of marked jaundice it is profuse in cases not jaundiced it is scanty or absent. The function of excretion gradually becomes fully established during the first seven or ten days of life. Where jaundice manifests itself it precedes the excretion of bile into the duodenum. Secretion of bile varies within wide limits. In general it is marked when the jaundice is marked. The occurrence of jaundice results from a defective correlation of excretion and secretion. It is generally caused by the inability of the rudimentary excretion to cope with the sudden profuse secretion of bile. He believes this last is the basis for the appearance of icterus neonatorum.

This theory while ingenious must to a certain extent be discredited when the excellent investigations of Hirsch and Yipso are considered.

Hirsch first tested the relation of the blood supply of the skin to icterus neonatorum. To do this she put a collodion dressing on the skin of the arm immediately after birth. In this way she was able to show that the area thus made anemic showed no icterus. On removal of the dressing in a few hours the patch became hyperemic and was more markedly icteric than the surrounding skin. From this procedure two other facts were brought out. First that in the first 24 hours before icterus occurs the serum is more darkly colored and second that this increased pigmentation of the serum is present during the first to third days in those children who show no icterus.

She examined the blood from the umbilical cord by means of Hirsch's diazo-reaction with the following results:

1. She found that all newborn have more bilirubin in the blood than do adults or older children.

2. The concentration of the bilirubin at the time of birth varies between 130,000 and 1,600,000.

3. The strength of this reaction in general is parallel to the degree of the icterus.

Besides these estimations the blood of 12 babies in the first hours and days of life were examined. The result showed that the bilirubin value remained high after the second or third day only when icterus was present. When there was no icterus the bilirubin content gradually declined. If the bilirubin content of the skin reached about 120,000 icterus was to be seen. The strength of the icterus probably depends to a great degree upon the cleanness of the skin and the water content of the body.

The findings of Hirsch are confirmed and amplified by Yipso. He examined the biliary coloring matter not only in the blood but in various secretions by means of the spectrophotometric method which he devised for that purpose. By this method the two components of the biliary coloring matter the bilirubin and biliverdin can be estimated at the same time. By this means he determined the following facts. The biliary coloring matter in the fetus is very small up to the last month. During the whole fetal period however the quantity of biliary coloring matter is strikingly small about 13 milligrams. In the urine of the newborn biliary coloring matter is excreted and there is a certain agreement between the quantity excreted in the urine and the intensity of the icterus. With the beginning of independent existence the biliary coloring matter increases quite markedly. From about the sixth day on a very great increase can be noted in the formation of biliary coloring matter in the newborn. In the first 13 days about 140 mg are formed in the icteric newborn about 0.5 per cent to 1.6 per cent of this is excreted in the non-icteric child at the highest 0.1 per cent. The total excretion of biliary coloring matter from the body in icteric and non-icteric newborn shows no specific difference and there is no agreement between the intensity of the icterus and the total excretion of biliary coloring matter.

As to the blood the biliary coloring matter of the fetal blood is increased in comparison with that of the healthy adult. Those children born from whose umbilical cord showed a comparatively high bile content practically always developed icterus while those who had a strikingly small bile pigment matter in the umbilical blood a rule developed no icterus. After birth the biliary coloring matter increased in every child the increase lasted 3 to 10 days and rose with a varied degree of progression. Children in whom the biliary coloring matter in the blood passes a certain boundary for skin icterus become icteric. The intensity of the icterus of the skin showed an agreement with the bile pigment content of the blood. Premature infants show in general a very high bile pigment content in the blood. The increase usually lasts 6 to 10 days and the bile pigment content holds for weeks above this boundary.

By clinical observations Yipso was able to determine that icterus neonatorum is altogether independent of the presence of infection either of enteral or prenteral nature. All living premature infants showed icterus, a great majority a very intense form which lasted many weeks.

Of 355 full term newborn 80 per cent showed icterus of the skin. They were distinguished clinically from the children who showed no icterus only in so far that markedly outspoken icterus was accompanied by slight secondary signs characteristic of cholemia.

Clinically three different forms of icterus neonatorum can be distinguished: icterus neonatorum simplex, icterus neonatorum prolongatus and icterus neonatorum gravis. The connection between all these is recognized by transition forms and they may all be regarded as various courses of the same affection.

As to the rôle which the placenta plays he makes the following observations. The human placenta allows the passage of no biliary coloring matter; the circulation of bile pigment in the fetus and mother have two systems which are divided from each other. Of the biliary coloring matter circulating in the foetal blood no quantities of any importance are deposited in the placenta. By animal experimentation he determined the following: The liver shows an especially high affinity for biliary coloring matter; it withdraws the biliary coloring matter circulating in the blood and excretes it in the bile; only a small portion is excreted in the urine. A resorption of bilirubin and biliverdin from the intestines could not be recognized.

Of the lower animals icterus neonatorum could be recognized only in the horse. Between horse and man one common characteristic is of importance and that is that bile pigment matter is normally found in the blood of both.

As to the nature of icterus neonatorum he draws the following conclusions: (1) It is of purely hepatogenous origin; the hematogenous factor plays no rôle. (2) Icterus neonatorum rests on the fact that the liver of the newborn for some time after birth allows a distinct part of the biliary coloring matter to pass over into the blood. (3) Icterus neonatorum is therefore a uniform physiological phenomenon which at times can attain pathologic strength.

In speaking of congenital familial jaundice McGibbon remarks that it may appear as an isolated case but usually affects several in the same family. The etiology is not known and syphilis is not absolutely excluded. The essential features are jaundice at birth or in 24 hours, large spleen, profound anemia with few red cells, many normoblasts and megaloblasts. In his case the post mortem showed small hemorrhages under the peritoneum and in the lungs, a great increase in the blood forming islands in the liver, the lymph gland proliferative, the thymus

somewhat enlarged; the thyroid showed fibrosis; there was no colloid material in the kidneys and no suprarenal cloudy swelling.

Fairrie and Bonnet report a congenitally syphilitic infant with hemorrhagic disease of the newborn, icterus and septicoparman. There is nothing of special interest in this case.

(c) SKULL INJURIES

Wilcox is of the opinion that skull injuries from forceps are often accompanied by intracranial hemorrhages and injuries to the cerebral cortex or porencephaly. The first sign after such a delivery is a child apparently dead or with low vitality with signs of intracranial pressure. He advises operating early in these cases in order to try to stop the hemorrhage. In regard to the treatment of skull depression two absolutely opposite views are held: one that all such depressions should be left alone, the other that they should immediately be raised.

Giroer reports that in 5 cases of skull depression which were followed out to autopsy in no case was the cause of death due to the depression. He states that in no instance has one of these depressions been shown to have a bad effect either upon the child's mental or physical development.

Hofmeier very strongly supports this view. In the Würzburg clinic since 1895 there occurred 25 cases of skull depression: one as the result of spontaneous delivery and 24 occurred in extraction of the aftercoming head. Of these 7 died shortly after birth. Autopsy showed marked bony fracture of the skull with intracranial hemorrhage. In none of the 18 living cases are there marked symptoms from bone depression; of these 18 one could not be followed. Of the other 17 5 died, 3 of enteritis in the first year, one of tubercular meningitis, and the other of a kidney disease in the eighth year. Of the remaining 12 all developed normally both physically and mentally.

Hofmeier believes that symptoms of brain pressure in cases of depression of the skull are due not to skull depression but to intracranial hemorrhage. He therefore feels that operative procedure is probably of little value.

Contrary to this opinion is that held by Kormak. He states that every depressed skull fracture should be immediately operated upon and he has devised a simple hook for this purpose. The point of this is introduced into the center of the depression, the handle is turned at right angles and steady traction is employed. In preparation the hair is clipped and a little tincture of iodine is applied. He reports three cases, all cured fully treated by this means.

12 hours of life it was found that in the urine of 521 of these excreted during the subsequent 24 hours is variable in color. In the jaundice it is profuse in color and in the quantity or amount the function of the excretion has become fully established during the first six or ten days of life. When jaundice manifests itself it precedes the excretion of bile into the duodenum. Secretion of bile does not within wide limits in general it is marked when the jaundice is marked. The urine of jaundice results from a defective excretion of excretory and excretory. It is generally used by the inability of the alimentary system to cope with the sudden profuse excretion of bile. He believes that this is the first time that appears of icterus neonatorum.

His theory while ingenious, must be in a great extent be limited when the excretion of the gallbladder of Hirsch and Hirsch are considered.

Hirsch first tested the relation of the bile supply of the intestine neonatorum. He put the infant in a solution of the kind of the arm from which after birth. In this way he was able to show that the area of the mucous membrane of the intestine is very large in a few hours the patch came hyperemic and was more markedly icteric than the surrounding skin. From this procedure he then followed the thought out first that in the first 24 hours of life icterus occurs the serum is more turbid and colored and second that this increased jaundice of the serum is present during the first three days in those children who have no icterus.

She examined the bile from the umbilical cord by means of the Hirsch reaction with the following result.

1. She found that all newborn have more bilirubin in the blood than do adults or older children.

2. The concentration of the bilirubin at the time of birth varies between 1,000 and 1,500.

3. The strength of the reaction in general paralleled the degree of the icterus.

4. In these estimations the bile of 12 hours in the first hours and five days were examined. The new-born had a higher value than the adult after the second and third days when the serum was present. When there was no icterus the reaction was negative. In the case of the reaction of the serum, however, a low reaction was to be seen. The reaction of the serum probably depends on a great many factors and is not a reliable test for the water content of the blood.

The findings of Hirsch are confirmed and amplified by Hirsch. He examined the biliary coloring matter not only in the blood but in various secretions by means of the spectrophotometric method which he devised for that purpose. By this method the two components of the biliary coloring matter, the bilirubin and biliverdin can be estimated at the same time. By this means he determined the following facts. The biliary coloring matter in the fetus is very small up to the last month. During the whole fetal period, however, the quantity of biliary coloring matter is strikingly small about 31 milligrams. In the urine of the newborn biliary coloring matter is excreted and there is a certain agreement between the quantity excreted in the urine and the intensity of the icterus. With the beginning of independent existence the biliary coloring matter increases quite markedly. From about the fourth day on a very great increase can be noted in the formation of biliary coloring matter in the newborn. In the first 14 days about 140 mg are formed in the icteric newborn about 0.5 per cent to 1.6 per cent of this is excreted in the neonatal urine. The highest 0.2 per cent. The total excretion of biliary coloring matter from the fetus is not in the icteric newborn born in great difference and there is no agreement between the intensity of the icterus and the total excretion of biliary coloring matter.

At the birth of the biliary coloring matter of the fetus is reversed in comparison with that of the healthy adult. Those children whose blood from the umbilical cord showed a comparatively high intensity practically always developed icterus while those who had a strikingly small bile pigment in the umbilical blood developed no icterus. After birth the biliary coloring matter increased in every child. This increase lasted to 10 days and rose with a varied degree of progression. Children in whom the biliary coloring matter in the blood passes a reaction boundary for an icterus become icteric. The intensity of the icterus of the children showed an agreement with the pigment content of the bile. Premature infants show in general a very high bile pigment content in the blood. The increase usually lasts 6 to 7 days and the bile pigment content held for weeks above the normal.

By clinical observations Hirsch was able to determine that icterus neonatorum is a rather common occurrence or the presence of infection either of a local or general nature. All living premature infants showed icterus, a great many of them a severe form which lasted more than a week.

Several recent investigators have endeavored to determine the relative values of the different silver salts as preventives of gonococcal ophthalmia. Schweitzer did this by determining the effect of the silver salts on the web of a frog's foot to see if possible what effect the various salts would have upon the cornea and conjunctiva. With a 1 per cent silver nitrate solution he got a brown discoloration with black flecks which showed a more or less weblike structure and the tissue was somewhat opaque. A 2 per cent silver acetate showed the same results. With a 2 per cent argentamine the black flecks were present the web was not so marked and the tissues were clear. A 2 per cent argonin solution showed about the same as argentamine but not so marked. With a 10 per cent protargol solution there were brownish black flecks but no web was noticed. With a 1 per cent collargol there was a slight diffuse brownish tinge. With a 5 to 10 per cent sophol and a 10 to 20 per cent argyrol there was no tissue change.

He examined the effects of these various salts on the capillaries in young fish and found that the effects corresponded to the above. If the silver acetate is neutralized by the use of a sodium chloride solution it produces no tissue change and is strongly antiseptic in addition its solution is stable.

Terson believes that the organic silver salts possess many advantages over the nitrates. As to bactericidal effect a 10 per cent argyrol solution is equal to a 1 per cent silver nitrate and the strength can be doubled or trebled without danger. A 5 per cent protargol solution is somewhat more painful than argyrol but just as effective. If the cornea is already involved instillations of silver nitrate solution are dangerous.

Anlauff takes up the question of the use of sophol in the gynecologic clinic at the University of Greifswald. This consisted in an experiment with 700 babies treated with a 5 per cent solution renewed every eight days. The reaction was very slight and transient. Of the 9 cases of conjunctivitis which developed 2 were gonorrhoeal one on the fifth day which healed in 12 75 hours and one on the seventh day. Two were pneumococcal from purulent lochia infected with the same organism one developed on the third day and one on the fifteenth day both recovered. Five were irritation catarrh the courses of which were very chronic. Of these cases only 2 according to his idea can be attributed to ineffectiveness of sophol. In 68 cases or 10 per cent there was a slight irritation lasting from 3 to 12 hours after instillation. Of the 9 cases of puru-

lent conjunctivitis previously mentioned 5 were early and 4 late. Sophol must be kept cold and be given cold as it soon precipitates. It is less irritating than the usual silver salts and may therefore be used again at the end of five days.

Morax combined the ordinary silver treatment with vaccine therapy. Of 110 cases of gonorrhoeal ophthalmia treated with a 2 per cent silver nitrate instillation every other day argyrol 20 per cent every hour and washing with hot water there were 15 ulcers with 9 perforations. In 6 cases vaccine therapy was used at first alone but two ulcerations developed and the usual form of treatment was applied. He advises against too much confidence in vaccine therapy in gonorrhoeal ophthalmia neonatorum.

(c) HÆMORRHAGIC DISEASES

Under the heading of hæmorrhagic diseases we have included not only the ordinary hæmorrhages but also intracranial hæmorrhages. All however will be taken up separately under this heading.

The subject of hæmorrhagic diseases of the newborn has been one of general interest in the last few years and in proportion to the amount of interest displayed a great quantity of literature has appeared upon this subject. Much of this literature consists of reports of one or more cases with a partial or complete review of the literature. Much too frequently the case has apparently been an excuse for writing a paper and has shown nothing of special interest.

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Joelsohn gives a detailed account of the clinical features in 8 cases which brings out nothing which was not previously known.

Fairise and Bonnet report a case of hæmorrhagic disease combined with icterus and septicopyæmia.

von Reuss's exhaustive review is certainly deserving of our attention. He first takes up the question of the sources of the hæmorrhage and states that they may be due to rupture of the smaller vessels of the mucous membrane as the result of severe labor or outspoken asphyxia or to erosion of these vessels. If hæmorrhage is much less frequent in the oesophagus than in the lower portion of the intestinal tract.

Vorpahl has reported a case in a child 3 days old in which melæna suddenly developed in four hours. The melæna in this case was a result of rupture of vessels at the cardiac end of the oesophagus. The vessel formation of this region resembled that of an angio-cavernosum.

Soli also favors the correction of bone depression. For this purpose he uses an instrument with a short screw and an L-shaped handle. In 20 cases which he has been able to collect from the literature treated with the use of this instrument only 3 died. He reports three more cases with excellent result all being apparently normal by the fifth day. In all these the symptoms of cerebral compression were relieved.

(d) OPHTHALMIA NEONATORUM

As to the occurrence of ophthalmia neonatorum Harman reports the statistics of the London County Council which shows the occurrence of 0.843 per cent in 100,830 births in 1911. This agrees very well with the figures 0.807 per cent in 12,680 births which Harman found in 1906 in a private investigation. Of 211 cases followed there were 218 cures with 13 cases of impaired vision of these 3 were blind, one was blind in one eye and the other eye was damaged, 4 blind in one eye, 2 had both eyes damaged and 3 had one eye damaged. Of 278 cases noted 17 died. Forty per cent of the mothers had vaginal discharge.

Tasaus lays stress on the existence of men gonorrheal ophthalmia. Of 12,751 cases 169 or 1.32 per cent showed ophthalmia of these 58 or 0.45 per cent were gonorrheal and 110 or 0.87 per cent non-gonorrheal. In the latter group the cornea was always clear. The treatment consisted in penciling the lids with 0.1 per cent sulimate solution every two to three hours. The worst case was one of pneumococcal infection which lasted three weeks. Of the gonorrheal cases, he states that they may often be infected after birth by the mother but there seems to be little doubt that the gonococcus may remain latent. Of his 58 cases 32 were late cases.

He gives the following table showing the effects of prophylactic and non-prophylactic measures and advises the use of a 1 per cent silver nitrate. He has had little success with ophol.

No. of cases	Ophthalmia	Per Cent	Early Infection	Per Cent	Late Infection	Per Cent
2735	58 gon + 110 non-	0.843	58	0.45	110	0.87
Without Prophylactic	58 gon + 110 non-	0.843	58	0.45	110	0.87
53	3 gon + 50 non-	0.33	3	0.01	50	0.32
With Prophylactic	3 gon + 50 non-	0.33	3	0.01	50	0.32
125	3 gon + 122 non-	0.24	3	0.01	122	0.23

Suermann in 72 cases of blennorrhoea and blennorrhoeal catarrh found the Prowazek-Halberstadt bodies many times. They were always found in the protoplasm and the nucleus was affected. Twenty five cases were simple catarrh 24 were cases of inclusion blennorrhoea of which only two showed gonococci and mixed infection. In 20 of these cases the time of onset was on the second day 1 on the fifth 1 on the sixth 1 on the seventh 6 on the eighth 5 on the ninth 1 on the fourteenth 1 and on the fifteenth 1. The case which occurred on the second day was a mixed infection with the gonococcus. The incubation time of inclusion blennorrhoea is 5 to 9 days with an average of 7 days.

In conclusion he states that inclusion blennorrhoea comprises nearly half of all blennorrhoea cases. Clinically it may be distinguished by longer incubation period, different secretions, more marked tendency to hemorrhage, insidious course, freedom of the cornea from involvement. Late infections are usually inclusion blennorrhoea. Simple catarrh do not belong to this picture.

Philippi also gives statistics in regard to blennorrhoea.

On the ground of 116 cases Klebanski concludes that gonococcal ophthalmia last from 8 to 90 days with an average of 35 days. Cases which are seen in the first week heal as a rule in less than three weeks. Vaccine treatment in blennorrhoea has been with influence. The use of silver nitrate combined with ardyol 20 per cent lowered the corneal ulcer from 25 to 16.5 per cent the former figure being for silver nitrate alone.

The treatment of ophthalmia neonatorum has been quite freely discussed. Credé-Hörder urges the importance of educating the public by the use of posters, etc., and the obligatory instillation of silver solution in the eyes of all newborn.

Holloway thinks that prophylaxis should begin during pregnancy. He also urges that in instilling the solution into the eye immediately after birth it be done after thorough cleaning and with avoidance of all trauma. He also urges that hospital care be given.

Stephenson gives a detailed systematic article on the prevention and treatment of gonococcal ophthalmia in the newborn. He advises clean up the eye with potassium permanganate 1:3,000 or bichloride of mercury 1:10,000. He frequently uses 30 per cent perhydrol (Merck). For instillation purposes he uses 25 per cent argyrol.

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He gives the following table showing the effects of prophylactic and non prophylactic measures and advises the use of a 1 per cent silver nitrate. He has had little success with sophol.

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		268		58	4		80
	513	7 gon. + 6 non	3 23 3 26	6 6	23	10	70 94
With Prophylactic	33	83	6 3	4	67	3 64	
		94 gon. + 9 non	3 9	26 13	20 3	18 5	
	33		26 44	21 9		69	

Sussmann in 72 cases of blennorrhoea and blennorrhoeal catarrh found the Prowazek Halberstadt bodies many times. They were always found in the protoplasm and the nucleus was unaffected. Twenty five cases were simple catarrh 24 were cases of inclosure blennorrhoea of which only two showed gonococci and mixed infection. In 20 of these cases the time of onset was on the second day 1 on the fifth 1 on the sixth 2 on the seventh 6 on the eighth 5 on the ninth 3 on the fourteenth 1 and on the fifteenth 1. The case which occurred on the second day was a mixed infection with the gonococcus. The incubation time of inclosure blennorrhoea is 3 to 9 days with an average of 7 days.

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Holloway thinks that prophylaxis should begin during pregnancy. He also urges that in instilling the solution into the eye immediately after birth it be done after thorough cleansing and with avoidance of all trauma. He also urges that hospital care be given.

Stephenson gives a detailed systematized article on the prevention and treatment of gonococcal ophthalmia in the newborn. He advises cleansing the eye with potassium permanganate 1/3,000 or bichloride of mercury 1/10,000. He frequently uses 30 per cent perhydrol (Merck). For instillation purposes he uses 25 per cent argyrol.

early form occurs rarely later than 4 to 5 days the late form occurs during the second week and is almost always of a septic nature. In the early form may be distinguished two groups. In the first or benign there is very little disturbance of the coagulation of the blood. In the first meconium we often find blood. The stool is black red brick red or a chocolate color and has an unpleasant odor. The number of stool is 3 to 4 daily and the blood excretion last from 1 to 3 days. This form occurs very frequently in premature children. Often the weight curve remains unchanged and the presence of fever is unimportant. The causes of this form are vessel wounds and hemorrhage as the result of hyperaemic erosion and at times septic and toxic hemorrhages. The prognosis is generally favorable.

The second group consists of the hemophilic form (not to be confused with hemophilia) in which coagulation of the blood is reduced. The hemorrhage begins most frequently on the second day but may begin as early as the first but never later than the fifth. In this form there is vomiting of blood as well as melena. The hemorrhage is profuse the stool are frequent and foul smelling and there is rapid anemia with more or less icterus. The temperature is raised but this is usually transient the body weight drops. At times hemorrhages are to be seen in the mucous membrane of the mouth gums nose and also in the skin. The total mortality of all cases of melena was about 50 per cent while in those complicated with hæmatemesis it was as high as 83.3 per cent. Among 31,300 births melena occurred 27 times. The late form of melena begins at the end of the first or in the second or third week of life. It is of septic origin and usually is an enteritis hæmorrhagica.

The so-called melena neonatorum spuria is of importance if the hemorrhage comes from the nose. Profuse epistaxis is one of the cause of hemorrhagic disease of the newborn. The blood however may come from the birth passage of the mother especially if it is vomited in the first day of life or from wounds of her nipples and in other cases it may come from the bite of the skull from lung hemorrhages or from wounds in the mouth.

The treatment of melena neonatorum may best be taken up under three heads: (1) medicinal (2) serum and (3) surgical.

Moore used paregoric in 4 cases of which one died and 3 recovered.

Vallois reports 2 cases of which one died and the other recovered. These were given 2 drops of 1:1,000 adrenalin daily.

Audebert advises the use of adrenalin and gelatine. He reports a case of uncontrollable hemorrhage from the umbilicus which began the fifth day.

Lovegren had the best results with a 10 per cent solution of gelatine given subcutaneously.

Poursin advises the use of gelatine combined with horse serum.

Most remarkable is the report of McGowan who had 3 cases of melena neonatorum of which 2 died and one recovered. In the latter case he used 4 to 10 ccm of horse serum at different times which was given by mouth.

Le Pina de Hrs had much success with the use of direct transfusion. He states that in these cases (1) the hemorrhage should be stopped (2) lost blood should be replaced and (3) infection should be overcome. He had 14 cases, none of which died of hemorrhage but 2 died of syphilis. The severity of the condition varied greatly. In one case the patient was practically moribund. He used direct transfusion from the radial artery of the donor to the femoral vein of the child.

Cooley advises direct transfusion since it is impossible to determine what blood element is needed. For this purpose he uses the instrument devised by Freund.

Vogt advises the use of a preparation of blood platelets which is known as coagulen. It is given intravenously in a 10 per cent solution in water or normal salt.

Comby has reviewed the entire literature but offers nothing new.

In regard to the use of human blood serum Franz Goldstine Merckens and Moore have all reported good results. In 13 cases Goldstine had two deaths, one of which was probably due to intracranial hemorrhage since the cerebrospinal fluid on lumbar puncture showed blood. Franz obtained his blood serum from the umbilical cord. Serum obtained in this way is centrifuged and preserved with a few drops of chloroform. It may be kept in this way for several months.

Schloss advises the use of whole human blood drawn directly from the vein of the donor and injected subcutaneously. Where it is possible transfusion is preferable.

Two cases of hæmaturia have been reported. One by Amessee where the only finding at autopsy was uric acid calculus of the kidney another by Bordot in a 3-day-old girl baby where the hæmaturia ceased in 3 days after the use of ergotin. He states that the cause in his case was probably syphilis.

In regard to metrorrhagia in the newborn Gognitidge states that in 196 newborn less than

Commandeur has reported a case where an ulcer 2.5 mm in diameter was seen on the greater curvature of the stomach.

Clippingdale has reported a case of fatal hemorrhage in a child one day old in which there were small ulcers in the stomach and small intestines which he thinks were most probably due to bacterial infection.

Pinninger reported a fatal case in which there was an ulcer one half inch from the duodenum.

Gallis has gone into the question of ulcers of the duodenum in the newborn and nursing. He discusses the theories the embolic infectious and toxic causes so far as the newborn is concerned. The ulcers in the intestines of the newborn are practically always accompanied by melena and characteristic of ulcers at this time is the severe degree of hemorrhage. The diagnosis of ulcer of the duodenum in the newborn is extremely hard to make.

Lovegren on examining 3 cases of melena neonatorum found only one in which ulcers were present macroscopically. He thinks all ulcers are secondary and have nothing to do with the primary cause of melena.

Von Reuss states that ulcers may occur in the ileum and caecum. The number of ulcers may be many or few. These may be produced by bacterial infection through ischemia or through emboli or bacterial thrombi though this must be regarded as of very rare occurrence. He states that single ulcers are rather frequently found in the duodenum as well as in the stomach. He also calls attention to the fact that melena is very infrequently found in later life when gastric ulcers are present and that in severe forms of melena often no recognizable sources of hemorrhage can be found. As to the cause of the condition he speaks of syphilis and states that no etiologic value for Gaertner's bacteria has been proved. The ports of entry for septic melena are many. They may come through the circulation by means of internal infection etc. and they may be toxic substances of a non-bacterial nature. It is interesting to note in this connection that there is in all cases a change in the coagulation of the blood in many cases there is also prothrombin. There may be a localized disease of the vessels which gives a definite production of thrombokinas.

Hereditary influence seems to play a certain part. Interesting in this connection is the surprising statement of Bonnet-Laborde who believes that in 3 cases of melena neonatorum which were nursed by the same wet nurse the cause was breast milk which was relatively rich

in protein and poor in fat and sugar. The author thinks it possible that the composition of the breast milk was such as to irritate the bowel. One certainly must be very cautious it would seem in accepting the author's interpretation of these cases.

The most important work on the pathology of hemorrhagic diseases of the newborn is that of F. A. Graham. After thoroughly reviewing the causes which have been ascribed to this condition he comes to the conclusion that probably in these cases there is some common process which will account for all. He calls attention to the fact that the condition is very similar to that induced by lack of oxygen and also to the late chloroform poisoning in adults. He then experimented upon pregnant guinea pigs by administering chloroform to the mother several times before the birth of the young. By this means he was able to produce hemorrhage in some of the animals. Interesting in one case was the production of a hemorrhagic disease in the kidney and a fatty degeneration resembling Buhl's disease in another of the same litter. Graham's ideas have so frequently been misunderstood that it would be well to quote in full his summary which is as follows:

Those conditions of the newborn characterized by hemorrhagic tendencies, atresia, and fatty changes are probably all syndromes which may occur as the result of a number of toxic agents. All of them however have been produced in these experiments by the action of a single experimental agent. Thus a picture indistinguishable from that called Buhl's disease has been attained by the use of chloroform as have also the diseases known as Winkler's, melena neonatorum, etc. Chloroform is not held to be the only substance that has this power. It stands rather as one member of a group of agents the effects of which in general and in individual organs are similar to those caused by lack of oxygen.

The essential features of these conditions have also been produced by direct asphyxiation of the fetus. The suggestion is therefore made that in nearly all of these pathological symptom-complexes there is a deficiency of oxidation, general local or selective, thus bringing this group of diseases into the general category of eclampsia, pernicious vomiting, cyclic vomiting, etc. In human beings, chloroform and asphyxia must, in many instances be the determining causes. There remain however other cases in which different factors are to be sought.

Von Reuss distinguishes two forms in the clinical picture the early and the late. The

were no recognizable causes of death. In one the tentorium was torn. In 2 cases of twins, one of each set was affected. Both of these cases had the following points in common. They were twin babies and relatively small weak children the delivery was easy and spontaneous there were no signs of trauma and no signs of syphilis. In each case the other twin survived. In all 4 of his cases the hemorrhage was located beneath the dura and extended from the foramen magnum to the dorsal region and was most voluminous in the cervical region. It was especially localized

about the sides and at the nerve-roots. No wound of the dura or fracture of the vertebræ was found.

(f) BUIHL'S DISEASE

Luisch reports an autopsy in a four-day-old child dead of Buhl's disease. He sums up the findings as follows:

An acute intestinal catarrh was followed by a typical bacillus-coli bacteræmia which led to stoppage of the small vessels and to formation of thrombi in the large ones. This produced hemorrhage and fatty degeneration.

III INFECTIONS

(a) GENERAL CONSIDERATIONS

In the general consideration of infection of the newborn von Groer and Kassowitz have taken up the subject very exhaustively and a short résumé of their work will hardly do justice to it as this alone is a subject which requires exhaustive study. However there are many points of special interest in their work and an attempt will be made to give these.

Infection of the newborn may be due to (1) germinal infection (2) intra uterine infection of which there are two types hematogenic and amniogenic (3) infection during birth and (4) infection in the first days of life.

The possibility of germinal infection has been raised but so far has never been proved and the weight of medical opinion is against it. Intra uterine infection of hematogenic origin can occur by metastases from infection of the mother as has been demonstrated with the typhoid bacillus, staphylococcus, streptococcus and pneumococcus. It is doubtful whether influenza and cholera are carried in this manner but it is probably true that malaria is thus transmitted. Varola is certainly transmitted in this way the mother with varola at the end of pregnancy can give birth to a perfectly normal child which later develops smallpox. Measles seems to be carried in rare cases, and possibly scarlet fever. There is no doubt that tuberculosis has been found to be transmitted in this manner but such cases are extremely rare and tuberculosis of the placenta is by no means always followed by tuberculosis of the fetus. Syphilis is most frequently transmitted in this way.

Amniogenic infection is of rather doubtful occurrence and is certainly rare. It is possible that by early rupture of the amniotic membrane the fluid may become infected from vaginal bacteria.

The following conditions predispose to infection during birth: (1) premature rupture of the bag of water (2) breech presentation (3) physiologic trauma by which infection can enter the respiratory and gastro-intestinal tracts and the conjunctiva. It may be that aspiration of infected amniotic fluid is an important factor in the production of pneumonia. This may also result in infection of the middle ear through the eustachian tube and the extension of such infection to the meninges. The gastro-intestinal tract is probably a very important source of infection and the meconium is a favorable culture medium. The mouth cavity soon after birth is seen to contain the same bacteria which are found in the vagina of the mother. Gastro-enteritis may occur as a result of infection of the meconium.

In the infection of the conjunctiva not only gonococci but other bacteria are involved notably streptococci, staphylococci, pneumococci and bacillus coli. In rare instances the skin may be infected. In certain cases of pemphigus neonatorum this is demonstrated. Infection during the first days of life may occur through the umbilical wound and here the vaginal bacteria are of the greatest importance.

The existence and development of infection depends to a large extent on the treatment of the umbilical cord. Tetanus may enter in this way it usually begins on the fifth to the twelfth day but by far the most frequent infection is that by the pus cocci. This can remain local or have a progressive phlegmonous character. Besides the umbilical cord any epithelial defect can be the entry place for bacteria in the skin — pemphigus neonatorum simplex and dermatitis exfoliativa also thrombi of the skin and erysipelas. Mastitis in the newborn can come in this way. Infection through the mouth may be the source of the production of Bedner's aphthæ and infection of the

8 days old four cases of metrorrhagia were found. He thinks the cause is a temporary irritation of the genital organs due to substances elaborated by the placenta and liberated in the blood during labor and he thinks the same substance may cause congestion of the mammary glands.

In autopsy of 5,998 children under 2 years of age Kowitz found that there were intracranial hemorrhages in 16.9 per cent. He comes to the following conclusions. In both normal and artificial births intracranial hemorrhages or traces of them are found with decreasing frequency in the dura, arachnoid ventricles or brain substance. In no trifling number the subdural hemorrhage gives rise to hemorrhagic pachymeningitis (3.9 per cent of all children examined between 8 days and 2 years). From these changes children die most unexpectedly from pachymeningitis or other diseases against which such children have a poor resistance. There is probably a lesion of the brain which is concomitant with the hemorrhage from the birth injury. In older children the condition which is common is not due to hemorrhagic pachymeningitis.

Thibault has carefully reviewed the literature on the intracranial hemorrhage of the newborn and reports 29 cases all of which died. He makes the following statements regarding this condition:

1. Meningeal hemorrhage constitutes one of the most frequent causes of death in the newborn.

2. These hemorrhages are produced at the time of birth.

3. They differ from the majority of meningeal hemorrhages in the adult by the absence of previously inflamed encephalic membranes.

4. They are frequently accompanied by subserous ecchymosis which possibly depends on hemorrhagic diathesis.

5. Death is usually rapid and can be delayed only by lumbar puncture.

6. The cause is the traumatism which the head undergoes in passing through the bony pelvis.

For early diagnosis of subdural hemorrhage in the newborn Henschen thinks the most effective means is puncture of the subdural space through the large or small fontanelle while in cases in which the hemorrhage is in the region of the medulla spinal puncture between the second and third cervical vertebrae is most effective. If the hemorrhage is not too great these measures may act as very efficient therapeutic procedures. If the blood is coagulated the puncture may serve as a guide for operative interference. He reports a case of subdural hem-

orrhage in the frontal region successfully treated by puncture and operation with removal of the clot. He advises attempts to drain the subdural hemorrhage by the insertion of a comparatively large caliber cannula point upward between the parietal or occipital bones and the removal of the fluid and coagulum found where possible.

Voron and Rey report a case of death in 12 hours, due to subarachnoid hemorrhage. The authors regard an abnormal fragility of the vessel walls as the cause of these hemorrhages.

In 30 autopsies on the newborn infant, Lederq and Papert found 13 cases of meningeal hemorrhage and one of cerebral hemorrhage. They conclude that in the fetus at term these intracranial hemorrhages are due either to obstetrical trauma or to a congenital toxic infection. In the premature cases the cause lies chiefly in the inability of the blood-vessels whose walls are not able to support the compression during labor. These hemorrhages are in a certain number of cases accompanied by an extrameningeal extravasation of blood without dislocation of the vertebrae or fracture of the skull.

Manton reports 3 cases of intracranial hemorrhage and emphasizes the importance of differentiating it as the cause of severe asphyxia.

Green reviews the subject at length and reports autopsy findings.

Bentzen reports 10 cases of intracranial hemorrhage due to rupture of the tentorium. In all but one of these cases this was the sole cause of death. All the children were born spontaneously. He believes that such cases are due to sudden strong pressure applied to the head to relieve the perineum, which by pressing on the frontal bone places the tentorium on a stretch and tears it.

Eastman reports a case which was delivered by forceps. The child died on the seventeenth day. At autopsy hemorrhage was found in the lateral ventricle and also between the pia and dura.

Abels reports two cases of ventricle hemorrhage in the newborn. In the first cases there were hemorrhages into all the ventricles of the brain, into the abdominal cavity and into the suprarenals in the lungs there was bronchitis with atelectasis. The clinical picture very closely resembled that of tetanus. In the second case the hemorrhage was into the lateral ventricle alone. There were also hemorrhagic erosions in the stomach. Abels thinks that the cause of the condition is overfilling and rupture of the veins of the choroid plexus during birth.

Very interesting are the findings of Groné. In 4 cases he found a condition of epidural hemorrhage in the spinal canal in 3 of which there

fluctuation be present the abscess should be incised

In examination of the relation of diphtheria protective bodies in the newborn to those of the mother Kassowitz comes to the following conclusions (1) The protective body content of the newborn against diphtheria toxin is in complete agreement with the content of the mother's blood in this material This is found in 84 per cent of all mothers and newborn (2) The rarity of diphtheria in the newborn is in close agreement with the immunity of the mother (3) About 50 per cent of the serum immune parturients and normal women react positively to diphtheria toxin The intracutaneous test with diphtheria toxin when positive therefore gives no conclusion as to the protective body content of the serum (4) About half of the serum immune women are sensitive to the overneutralized toxin antitoxin mixture (5) Some women react positively to the toxin inactivated by boiling but this reaction does not always correspond with the sensitiveness against neutralized toxin

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In the course of an epidemic of measles Stein schneider saw a case in an infant 9 days old The eruption was typical as were the symptom and the course The child recovered The mother had had bromides in small doses the day before eruption appeared but this would hardly account for the typical measles as described

Cockayne reports a case of *whooping cough* in an infant 5 days old On the third day after delivery the mother developed whooping cough the infection having been acquired from a son three and one-half years old He cites several cases from the literature many of which seemed to be quite doubtful

Gatti reports a case of pertussis which began on the fifteenth day of life he saw the child 4 days later the infection was acquired from a sister The child died 12 hours after admission to the clinic in a state of apnoea following a paroxysm of coughing In this case mucus from the throat showed bacilli like the Bordet Gengou bacillus

Wolf reports a case of *tetanus neonatorum* which recovered The case occurred in a breast fed baby 11 days old with an umbilical infection the child showed typical symptoms of tetanus One hundred units of tetanus antitoxin were given subcutaneously immediately about the umbilicus and on the next and second day following 100

units each were given one-half intramuscularly and one-half subcutaneously It was necessary to give bromides and chloral hydrate in order to reduce the spasms sufficiently so that the child could be fed by gavage At 7 weeks of age the child had been completely normal for 14 days

Leidenius reports a case of *gonococcal septicaemia* in a newborn infant on the tenth day of life Redness and swelling were noted about the right knee-joint followed in a few days with involvement of the left elbow and mandibular joint Puncture gave a thin pus which contained the gonococci After about 8 weeks the functions returned and at 6 months the child was apparently normal no ophthalmia was found clinically and no gonococci were to be found on examination of the conjunctival sac mouth or urethra Three days after birth gonococci were found in the lochia of the mother gonococci were found neither in the blood of the mother nor in that of the child

Of 2 657 cases of *erysipelas* treated in the isolation hospital in Paris only one occurred in a child under one month of age and this was by direct contagion from the mother The usual location of *erysipelas* in the newborn is about the umbilicus Oftentimes patches appear in different parts of the skin far removed from the original location Recovery is very rare

Lereboullet and Moricand report a case of *varicella* in a 14 day old baby the mother having developed *varicella* the day before its birth The first exanthem appeared on the fourteenth day on the trunk and limbs the second 3 days later on the head and shortly thereafter a third attack on the cheeks tongue and inner surface of the lips The weight during 14 days remained stationary The temperature at first was up to 39 C but soon became subnormal and varied between 35 and 36 Recovery began on the fourth day

Brumfit and Tissier report *malaria* in a newborn infant The attack was initiated on the eighteenth day with convulsions and fever On the twenty third day the malarial parasite was found in the blood This was benign and of the tertian type the child recovered This was in all probability a true case of congenital malaria The mother had developed malaria 4 months previous to the birth of the child and the child was born in a portion of France absolutely free from malaria at that time of the year (October)

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salivary glands True tonsillar diphtheria is extremely rare but localization on the nasal mucous membrane is of more frequent occurrence

In the respiratory tract there may be the usual pneumococci perhaps rarely tuberculous pneumonia and still more rarely bronchial gland tuberculosis Infection may also enter through the gastro-intestinal tract though the importance of such infection is not yet determined Extremely rare in the first weeks of life are acute exanthemata Measles is only found in the newborn whose mother has recently had the disease

As to immunity paternal transmission must be entirely disregarded By animal experiments it has been proved that antibodies of various sorts pass through the placenta This is true of agglutinins, precipitins hemolytic amboceptors and opsonins In all cases in which the serum of the mother animal contained antibodies these were transmitted to the offspring This immunity of the offspring has a distinctly passive character independent of the method In some cases the degree of immunity of the serum of the offspring may be higher than that of the serum of the mother Anaphylactic reactions have been found in the guinea pig

As to the question of immunity in man typhoid agglutinins probably are transmitted This also holds true for tuberculosis As to acute exanthemata it is altogether likely that the newborn is protected by antibodies for measles this is also probably true for scarlet fever It is interesting to note that where the mother has been vaccinated for smallpox in the majority of cases it has been impossible to have a vaccination take on the newborn As to the transmission of syphilitic immunity in the newborn there is some question The mother and the child react to the Wassermann test independently of each other Diphtheria protective bodies are to be found in the umbilical blood serum in from 83 to 84 per cent of all infants, so that diphtheria antitoxin may be regarded as a substance which physiologically passes from the mother to the child but the ability to produce diphtheria antitoxin under normal conditions comes only in adult life

As to trophogenic transmission of immunity according to some authors there is an *enteral* passive immunity in infants One can certainly deny the transmission of protective bodies for tuberculosis and regard as doubtful the transmission of scarlet fever and measles antibodies Many writers hold that the mother's milk brings natural immune bodies to the infant organism The form of immunity peculiar to the newborn and the fetus is that due to a deficiency of receptors

Noack has examined carefully into the question of infection of the fetus from the vaginal secretion of the mother He states that there are two possibilities, one where the bag of waters ruptures early and the amniotic fluid becomes infected, and where it ruptures late and the child is infected during its passage through the birth canal In the former condition the infected amniotic fluid may be aspirated or swallowed or may even cause otitis media by passing into the eustachian tube

The skin of the infant may be infected causing pemphigus erysipelas or gonorrhoeal exanthema The eye may be infected causing gonorrhoeal or other forms of ophthalmia neonatorum The gonorrhoeal ophthalmia in some cases has led to gonococemia with purulent arthritis Infection may come through the nose and mouth producing pneumonia or otitis media sometimes followed by fatal meningitis, gastro-enteritis, pseudodiphtheria, stomatitis and gonorrhoeal inflammation of the mouth

In 30 cases where the vaginal secretions of the mother and the mouth cultures from the child were bacteriologically examined there was a very definite agreement Indirectly there may be an infection of the breast of the mother by bacteria from the child's mouth which came originally from the mother's vagina Other locations of infection are the mammary gland the umbilicus the vulva and vagina and possibly the anus

He believes that the vaginal secretions have a much greater importance as infection producers in the newborn than imply as producers of ophthalmia neonatorum

(b) ACUTE

As regards ordinary infections with the pus organisms the following cases have been reported David has reported a case of septicopyemia of umbilical origin with phlebitis affecting both lower extremities This was followed by ascites The umbilical infection was first noted 27 days after birth the phlebitis 10 days later The child died on the sixty fifth day of multiple abscesses

Azema reports a case of infection following vaccination in a baby 12 days old the child was vaccinated on the first or second day on the twelfth day *ostomyelitis* developed and the child died on the thirty second day

Broca advises as a prophylactic measure to prevent *mammitis* in the newborn that a cotton compress be applied over the engorged glands no medicaments are to be used If inflammation appears hot dressings should be applied and if

fluctuation be present the abscess should be incised

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treatment and recovered. On three occasions after treatment had been begun it was impossible to discover the parasite. Four to five hamorrhagic infarcts were found in the placenta. It seems that there may be a great deal of question as to whether this case was truly one of malaria.

Goebel reports a case of purulent meningitis in an infant 9 days old caused by bacillus proteus. Death occurred in 17 days. Agglutination of the infecting organism at 1:60 was seen. The source of infection is unknown.

In taking up meningitis in the newborn Dryol reports two cases due to the pneumococcus: the first developed on the seventeenth day and the child died on the twenty-second day. The second case was in an infant 9 days old and the child died on the thirteenth day. In this case pneumonia was accompanied by hepatization of the bases of both lungs. In taking up the literature of meningitis in the newborn he has been able to collect the following cases: meningitis due to pneumococcus 7 cases to bacillus coli 7 cases meningococci 2 cases streptococci, 2 cases lactis aerogenes, 1 case syphilis, 3 cases and unknown 7 cases. He then takes up in detail the question of pneumococcal meningitis in the newborn. The diagnosis is to be determined by lumbar puncture. The course is extremely rapid — 1 to 5 days. No treatment is of any avail.

Fabre and Bonnet report a case of pneumococcal meningitis in a child 5 days old with death 4 days later. In their opinion this case was one of vaginal infection. The mother had a general febrile affection and the pneumococcus was obtained from the lochia. The maternal infection may have been localized in the uterus at least there were no lung findings.

(c) CHRONIC

Fabre and Rheuter held autopsies on 67 newborn with the idea of determining the diagnostic value of the syphilitic epiphyseal lesions. They divided their cases into three groups. The first group consisted of cases of certain syphilis of which 13 were positive, 2 doubtful and 2 negative. In the second group were 23 cases of probable syphilis of which 16 were positive and 7 negative. In the third group of 27 in which there were no signs of syphilis, 3 were positive and 2 doubtful. They believe that the sign of Wegner (syphilitic epiphyseal lesions) is of great value in the diagnosis of congenital syphilis. No microscopical report was published.

Sauvage and Gery in an autopsy on a child dead on the fifth day of life found large gummata in the lungs and liver. Only a few spirochetes were found in the substance of the liver and lung and in no other organs but spirochetes were numerous in the gummata.

Bonnet-Laborderie in speaking of sudden death in syphilis calls attention to the fact that in almost all of these cases there is an increase of the abdominal content either from ascites or enlarged organs — especially the liver and spleen — or from both. Thus he believes to be responsible for the acute asphyxia through pressure on the diaphragm. He later reported a case in which he acted upon this theory and removed 600 ccm of fluid by paracentesis from the abdominal cavity of a newborn infant in a state of asphyxia. This restored regular respiration and on palpation of the abdomen a very large liver was found.

In regard to the technique of the Wassermann reaction in early life Lesser and Klages, on examination of the umbilical blood from 1280 newborn came to the conclusion that the presence of reagins in the umbilical blood is indicative of spirochete in the infant organism. The fact that the Wassermann reaction once positive tend to become stronger speaks for elaboration of the reagins in the infant body and not for their acquirement from the mother. Where Lesser's ether heart extract was used the Wassermann reaction always agreed with that of the mother while with the foetal liver extract this was frequently not the case. This difference occurred in almost half of the syphilitic newborn.

Roux states that a negative Wassermann in the newborn does not exclude lues. A positive reaction in the first 14 days speaks only with great probability for lues. If the reaction in the blood is negative and the infant has a paralysis of unknown etiology the lumbar fluid should be tested. The blood should not be examined before the tenth day.

D'Astros and Tissoniere state that the proportion of positive reactions increases as the age becomes greater. In 24 infants less than one month old and weighing less than 2500 grams there were 73 negative reactions. Thus they regard as an argument against syphilis being an actual cause of congenital debility. One might question whether such a possibility was justified in view of the fact that the Wassermann test is notably uncertain in young infants.

Grulice after a review of the literature on the subject of laboratory diagnosis of syphilis in

young infants, comes to the following conclusions

1 There is no test which is proved to be pathognomic of congenital syphilis in the early stages between the birth and the development of active symptoms

2 The examination of the urine and the routine examination of the cerebrospinal fluid for globulin content and cells offers little evidence of value for the diagnosis of this stage of the disease

3 The evidence as to the Wassermann reaction all goes to show the unreliability of the test at this age

4 The Lange gold chloride reaction on the cerebrospinal fluid offers some hope at present that the evidence obtained in this way may be of distinct benefit

5 So far as may be judged from the luetin test at present reported active treatment with mercury materially influences it so much so that without mercurial treatment no case has as yet proved positive It may be stated however that the Noguchi test has a distinctly negative value inasmuch as in all cases not syphilitic the reaction was negative

As to the treatment of syphilis, a few articles have been written on *saharsan* in the newborn Chambrelent after a review of the literature comes to the conclusion that this method of treatment does not entirely replace the mercurial treatment The direct method is the method of choice but must be used with great prudence It is especially to be recommended when the skin lesions are severe or where mercury has failed He prefers intramuscular or subcutaneous injection to the intravenous in the nursing The maximum dose should be 10 to 15 mg per kilo weight

As to the effect of salvarsan treatment on the mother Lemeland and Brisson come to the following conclusions Salvarsan can be employed in pregnant women without danger of death to the fetus or of producing premature labor provided small doses are given and repeated every few days but massive dosage is dangerous for the mother and probably for the child Salvarsan seems to favor the fetus *in utero* and its action is more beneficial the earlier and more energetic the treatment The presence of a negative Wassermann reaction in the mother does not permit one to conclude that there is a non infection of the fetus *in utero* Four women were given neo-salvarsan one given birth to a dead fetus one child died on the second day of umbilical hemorrhage no pirochetes were found The other

two children lived and both were well when last heard from

Dupree reports a case where the mother during the seventh month of pregnancy was given 0.3 centigrams of salvarsan which had been preceded by a 40 days treatment with proto iodide of mercury The child was born 6 days after the injection and died in less than one month of facial erysipelas *Spirochetes* together with streptococci were found in the liver and suprarenals but they were mostly atypical in form

Moller reports a case of *tuberculosis* in a child which died on the third day The temperature was normal throughout and there were no cyanotic attacks respiration was short and labored and the child did not nurse well The mother left the hospital well but returned five months afterward with tuberculosis of the uterus and died of miliary tuberculosis in two months Autopsy of the child showed miliary tuberculosis of the liver and spleen a tubercle in the pancreas 2 typical ulcers in the ileum miliary tuberculosis of the lungs massive tuberculosis of the retroperitoneal lymph glands, and a caseous mass in the thymus Tubercle bacilli were found in the lesions

Moller calls attention to the fact that the mere presence of tubercle bacilli in the blood does not prove the tuberculosis to be congenital since they might enter at the time of birth Another source of infection is the swallowing of infected material such as amniotic fluid at the time of birth True congenital tuberculosis is evidenced by infection through the umbilical vessels with tuberculous lesions in the liver and in the lymphatic glands about the hilus of the liver To be certain that the case is congenital the child must die within 2 weeks and show characteristic lesions containing tubercle bacilli

Grulee and Harms reported a case of miliary tuberculosis in a child which died on the eleventh day This child showed throughout an irregular temperature On the fifth day it had a convulsion which continued until death The liver and spleen were found to be enlarged At autopsy there was found caseous tubercles of the perportal and mesenteric lymph glands miliary tuberculosis of the spleen with caseous nodules and a few scattered nodules in the liver lungs and kidneys The mother of this child had what was apparently only a healed tuberculosis of the hip She had however a vaginal discharge of unknown etiology and it is possible that the condition was similar to the case reported by Moller The mother was alive several months after the infant was born

II. CONSTITUTIONAL AFFECTIONS

(a) HEART AND LUNGS

Hecht reports a case of a *rhythmia* showing on the electrocardiogram a curve similar to that of auricular extra systole. The arrhythmia disappeared on the seventeenth day of life.

Reino found purulent pleurisy together with bronchopneumonia in a baby 24 days old which had a suppurative process in the lung. There was also a fibrin purulent pericarditis. The streptococcus and staphylococcus were isolated from the lungs.

Thaysen, in the obstetrical ward of the University of Copenhagen in autopsies of 111 babies under the month of age found pneumonia in 33 cases. Of the group 110 boys of age 26 cases were found or over 2 per cent. He thinks that in many instances a mistake has been made in diagnosing the lung condition as atelectasis when in fact a true pneumonia exists. Frequently one finds only microscopically recognizable pneumonic areas in the upper lung. In only 5 cases was a bacteriological examination made and in all of these were gram positive cocci. The pneumonia in these cases was not catarrhal but suppurative. He states one can distinguish in the newborn the following conditions:

1. The placental infection including pyelitic tuberculous and probably also pneumococci and in rare cases streptococci and staphylococci pneumonia.

2. Aspiration pneumonia acquired either through a perforation of the fetal uterine secretions or from purulent secretion from a pathological birth passage also at times from a normal birth passage.

3. Serous pneumonia which is probably extremely rare in the first days of life.

4. Metastases from umbilical infection or other external infections these are extremely rare at this age.

Of these groups unquestionably the most frequent are the aspiration pneumonia and especially the form which is caused through aspiration of virulent bacteria from the secretion from the birth passage of a healthy woman.

(b) GASTRO-INTESTINAL TUBERCULOSIS AND HERNIA

Lubin reports a case of purulent peritonitis in an infant 14 days old. The right parotid was first affected and the left 12 days later. After the abscess was opened recovery was rapid. Staphylococci were found in the pus. He thinks the condition is probably due to deficient emptying of the parotid secretion. Von Röss also

mentions a case of left sided purulent parotitis in a newborn infant.

Brennemann has reported three cases of atresia of the oesophagus. In reviewing the literature he finds that 5 per cent of the cases are of the type which he found in all three of his. This type is the same as that described by Richter. The birth weights in his cases while usually described as low were respectively 5 lb 9 oz, 7 lb 12 oz and 7 lbs—an average of nearly 7 lbs. The three cases which he reports died in 9, 7½ and 18 days. The cause of death is usually bronchopneumonia. As to weight the loss in his cases amounted to 2, 30 and 40 per cent respectively with nearly 5 per cent of this loss in the first three days. The temperature in each case showed a distinct elevation after the second or third day though in one case the temperature dropped and was abnormal. Sclerosis was a distinct feature. The meconium passed was not different from that of the normal infant. Attacks of suffocation and cyanosis were very frequent especially when food and water were given. In one of his cases the epigastrum was directly bulging and tympanic double due to the fact that the passage into the stomach through the oesophagus to the trachea was open. He discusses the treatment in detail but nothing useful has yet been decided.

Richter reports his experience in congenital atresia of the oesophagus. The site of the atresia is on the left with the bifurcation of the tract there is complete separation of the two segments of the oesophagus. The upper segment ends below as a dilated pouch and the lower segment joins the trachea and the trachea and communicates with the trachea and bronchi. All four of the cases operated upon were well formed fully grown infants. The symptoms consisted in—

1. Regurgitation at once of everything taken, beginning with the first feeding.

2. Continuous discharge of saliva and mucus from the mouth.

3. Spells of cyanosis at frequent intervals especially after feeding.

4. Crying or coughing tending to distend the abdomen.

5. Difficult respiration and marked respiratory retraction of the chest and abdomen.

6. Passing of the catheter into the oesophagus disclosed a complete block 10 to 12 cm from the gums.

7. Elevation of temperature with cough usually indicating pulmonary involvement.

The operation which he planned was as follows. First the closure of the gullet in this procedure no pouch must be left to accumulate fluid and no part of the oesophagus must be sacrificed. The thorax is next opened widely under positive tension and the oesophagus isolated near the bifurcation of the trachea and a ligature is passed around it. The detail of the operation are as follows.

The child is placed under a general anaesthesia by the intratracheal method and when the operators are ready to begin a pad is firmly bandaged on the abdomen. Incision is made in the sixth right interspace beginning at about the angle of the ribs behind and extending forward two inches. The ribs are widely separated and a finger is inserted. A flat retractor is used to draw aside the lungs the oesophagus is isolated and ligated or better the parts which were crushed with a heavy clamp are separated cut and both ends tied. In closing the chest a single pericostal suture is applied gastrostomy is then done. He reports two cases both of which died.

Lorenzini in a case where the infant had failed to pass urine in the first 5 hours gave an enema which removed from the rectum a gelatinous mass 10 cm long and 2 cm in diameter. The child died later of bronchopneumonia. This is the sixth case of mucous plug in the rectum reported in the literature according to Lorenzini.

Von Reuss showed the meconium from a case of *fœtal enteritis membranacea*. The meconium is mixed with a membrane of mucus in which cells are embedded.

Stamm reports a case in a newborn infant in which even after drastic catharsis no stool was passed until the eighth day. At that time a diarrhoea started and the temperature began to rise and death occurred on the tenth day. At autopsy necrotic areas were found in the lower third of the small and the upper half of the large intestine. The wall of the intestine was in many places covered by a thin easily removable fibrous membrane. He designates the condition *enteritis necrotica* of the newborn.

Henneguer in reviewing the subject of *intestinal occlusion* in the newborn states that it can be due to deformities to obstruction by a compact hard mass of meconium to compression and to abnormalities of position such as hernia. If after 36 hours there is no evacuation of meconium after flushing the bowel the diagnosis may be made. This is especially true if the other characteristic symptoms of intestinal obstruction be present. Surgical treatment consists in

removal of the obstruction anastomosis of the bowel rectal implantation and artificial anus.

Vaccari reports successful operation on a newborn infant for right *inguinal hernia* which contained a ruptured appendix. Drainage was instituted and recovery took place in 10 days.

Remsen reports a like case in a child 16 days old which was brought to the hospital because of persistent vomiting and red stools. A tender lump was felt in the right inguinal region. Operation disclosed an acute appendicitis in a hernial sac. Recovery was prompt and uneventful.

In regard to the dressing of *umbilical hernia* in the newborn Smester favors a simple adhesive without the use of button cotton or other material. The sides of the ring are to be carefully approximated before the plaster is applied.

Whitlock reports two cases of *strangulated hernia* in the newborn one in an infant 22 days old in which no stool was passed for 5 days. In the sac were found the right ovary and tube and a small loop of the small intestine. At operation no resection was done and the child recovered. The second case was in a child 17 days old. No stool had been passed for 4 days. The sac contained part of the cæcum with part of the appendix. The appendix was removed and the cæcum returned to the abdomen. Recovery was complete and rapid.

Vogt reports a case of *intestinal obstruction* in an infant which died on the fourth day and which at autopsy showed a *hernia duodenojejunalis* together with bronchopneumonia.

Vannessen collected 24 observations of *diaphragmatic hernia* in the newborn. The condition is four times as frequent on the left as on the right side. Among the most frequent hernial contents are the small intestine the liver and the stomach then the large intestine spleen and pancreas. Diaphragmatic hernias may be divided into two groups embryonal and fœtal. The embryonal or false are without a sac and are never anterior. The fœtal or true have a sac and have no special point of election. The diagnosis is based on difficulty in respiration a peculiar cry cardiac dullness with beat to the right intestinal resonance on the right or left side of the thorax penetration of air sucked into the intestinal canal with *borborygmus*. Prognosis is very grave and treatment is of no avail.

Wetterdal reports autopsy findings in a case of *diaphragmatic hernia* of the false variety on the right side. In the statistics from two Stockholm hospitals he finds accounts of 17 cases of *diaphragmatic hernia* in 39403 newborn a percentage of 0.043 per cent. The false hernia

is 7 times as frequent as the true and the right sided 6 times as frequent as the left sided. He has collected from the literature of the true variety 10 cases of right and 20 of left diaphragmatic hernia of the false variety 49 right and 302 left.

In a case of septicopyæmia due to streptococci Mensi found multiple abscesses of the liver together with cerebral abscess. The symptoms began on the fourteenth day and the child died on the twenty first.

Epstein reports a case of congenital atresia of the bile-ducts the child died at 6 weeks. At autopsy the atresia was shown to be a closure of the distal end of the common duct. The condition therefore offered some chance of relief from operation.

Wippo reports at length two cases of congenital closure of the bile-ducts in both of which the Wassermann reaction was negative. In one the upper part of the cystic duct and common duct were closed and there was a cherry sized cyst filled with bile in the other. There was aplasia of all ducts. In regard to the question of the nature of this condition he thinks it is fair to conclude that the cause of this malformation lies in the embryo or is produced through the persistence of the foetal physiologic epithelial occlusion. In the metabolic experiments carried out in these cases he found that 63.5 per cent of the ingested fat was retained and 73 per cent of the fat was split. There was no lipuria. Of the bilirubin given per os no recognizable quantities were absorbed and it was quite remarkable how small the quantity of biliary coloring matter was which was excreted in the urine.

(c) NERVOUS SYSTEM

Helm calls attention to the fact that many newborn are physiologically *hypertonic* the babies lie almost in opisthotonos the head is drawn back and the extremities are in marked flexion. The muscles feel hard but there is no increased electrical irritability. The shape of the head in these cases is usually a dolicocephalus. For weeks and months it is extremely difficult to feed these babies in such a way that they gain. The length growth is not affected. The weight increases later if a food rich in albumin is given with the breast milk. These infants vomit easily. As weight increases hypertonicity decreases.

Krüger and Franks report a case of acute *tetany* with death on the second day after birth. They regard the case as due to septic infection. Streptococci were found in the intestine. A complete autopsy was not possible.

Dunoyer has taken up the question of tetaniform convulsions in the newborn. He states that in the newborn there are found generalized convulsions permanent contractures with trismus, opisthotonos and paroxysmal spasms. Examination of the electrical irritability will determine between tetany and tetanus. Lumbar puncture will eliminate cerebral and meningeal conditions. The thesis contains a review of the subject but nothing new.

Von Reuss showed a case of *clonic twitchings* of the right side of the body a result of brain trauma. The twitchings began on the third day with an attack of cyanosis. The child vomited and had to be fed by gavage. Convulsions ceased on the seventh day after the use of chloral. Lumbar puncture gave a clear fluid. It is interesting to note in this case that the child had a left sided purulent parotitis.

In determination of *eye paralysis* in the newborn Bartels observed that in rotation of infants immediately after birth there was no rotation nystagmus but only the first phase the slow opposite movement of both eyes. If either eye fails to follow through this movement there is a paralysis.

He reports a case where the left eye never followed past the middle line later this phenomenon disappeared to a large degree i.e. after true rotation nystagmus developed there was less difference between the two eyes. He concluded that the infant had an affection of the left abducens. The birth was a severe one and he thinks it likely that this was a hemorrhage into the abducens nucleus. To elicit this sign one holds the child in the arm and swings to the left then back to the right. The head of the child must be so held that it will not turn in the opposite direction and at the same time one eye must be held open.

Peltesohn lays stress upon fracture of the upper end of humerus in cases of *birth paralysis*. In the last six years he has seen 9 cases due to this cause.

Lundgaard reports an autopsy on a case of *syngomyelia* in a child which died at two months. The child had no legs and but one arm. The spinal cord findings were (1) a widening of the central canal (2) a marked development of the hyaline connective tissue which carried vessel from the pia to the medulla (3) a longitudinal defect in the medulla which in part was filled with blood-vessels and connective-tissue masses (4) a light thickening and sclerosis of the pia (5) sclerosis and thickening of the adventitia of the vessels of the pia and medulla (6) dilatation

of some of the perivascular lymph-spaces and obliteration of others—distinct lymphostasis in the medulla. The internal organs showed no signs of disease and no syphilis was seen. This therefore must be regarded as a true hydromyelia of congenital origin and is without doubt a malformation anomaly.

Klotz analyzing his cases of *mental deficiency* regards birth trauma as an etiological factor. Of 144 cases which he had had in five years there were 19 which showed abnormal births. Of these, 8 were protracted labors, 3 asphyxia and 8 forceps. After excluding those with hereditary taint, there remained 5 protracted labors, 2 asphyxia and 4 forceps. These were divided as follows:

Of the idiots: 2 protracted labor, 2 asphyxia and 1 forceps; of imbeciles: 3 protracted labor and 2 forceps; epilepsy: one forceps. Therefore 11 children or 7.6 per cent were affected with out any other factor being involved. He concludes from this that birth trauma is an important factor in mental development. His remarks in regard to *Little's disease* are especially interesting; not a single case was encountered in this series and in none of 18 cases of *Little's disease* which had come to his experience was the child premature.

(d) GENITO URINARY SYSTEM

An examination of the vaginal bacterial flora in the newborn was undertaken by Schmidgall. Among 13 cases 10 were sterile on the first day. In the vaginal secretion of 21 newborn streptococci were found 20 times, staphylococci 16 times, bacilli 12 times and colon like bacilli 10 times; micrococcus tetragenus 3 times, saccharomyces twice, staphylococcus parvulus 4 times, bacillus haemophilus 3 times, bacillus bifidus twice and the vaginal bacillus of Doderlein 11 times. His conclusions are:

1. The vaginal flora in newborn girls is in great part dependant on the vaginal flora of the mother.

2. Even in the newborn pathogenic microorganisms are the chief part of the vaginal bacteria.

3. The vaginal secretion of the newborn and up to the end of the first year offers a favorable medium for the development of the various strain characteristics.

4. The acid reaction of the secretion does not exert a sufficient bactericidal influence to kill the pathogenic microorganisms.

5. The influence of the intestinal bacteria on the vaginal flora is slight.

Mayerhofer in a case with defect of the skull and spina bifida finds a *uterine prolapse* due to weakness of the pelvic muscles.

Paola reports *bilateral cystic ovaries* in a child which died a few hours after birth. On the right side was a small double serous cyst involving the whole ovary and spontaneously ruptured. The small cyst on the right side was due to exaggerated development of the two graafian follicles. The left cyst wall was made up of thin ovarian tissue. The center was traversed by trabeculae of tissue which was epithelioid in type.

Valmale and Payan report a case of double *orchitis* and *epididymitis* in a baby 7 days old. Death occurred on the ninth day. At autopsy infection was found about the umbilical vessels with marked involvement of the testes. There was no other focus of infection. The streptococcus was isolated.

(e) SKIN

There have been several reports recently on *pemphigus neonatorum*. Biddle reports an epidemic of 12 cases in which there were no deaths. The disease extended to mothers and nurses. In two cases staphylococci were cultured from bullae and in one case the blood showed the same organism. The vaccine made from one case and used on the same case gave a violent toxic reaction rash.

Reinhardt reports an epidemic of 23 cases extending over six months which defied the strictest quarantine and precautions. There were 3 deaths, one of pneumonia. Examination of the content of the bullae showed staphylococcus in some cases, short-chained streptococci. Cytologically cells of the type of large mononuclear leucocytes were most numerous. Very fine acidophilic granules were shown by Giemsa's stain in all preparations. Pathologically the changes were those of sepsis.

Cole and Ruh examined very carefully a series of 9 cases. These proved very infectious and they finally had to close the hospital in order to stop the spread of the disease. In one case in which staphylococci were obtained from the blood death occurred in 12 days.

The authors do not believe that the condition is the same as *impetigo contagiosa* because the latter is caused by streptococci though some rare cases in adults closely resembling *impetigo* seem to be caused by the staphylococcus; these however are always of a mild nature. They believe that Rutter's disease (*dermatitis exfoliativa*) is only a malignant form of *pemphigus neonatorum*. Quite contrary to the experience

of Biddle they obtained excellent results by the use of autogenous vaccines. All cases except the first were treated by autogenous vaccine and all recovered in a strikingly short time after its use. A dose of 5,000,000 was used and it was repeated if necessary.

Hofman concludes, after his study of pemphigus that pemphigoid appears to be a staphylococcus infection. It has an etiologic relation to clinical and bacteriological impetigo contagiosa which heals with brown scars and has a location different from that of the streptococcus form. In older children there are serous blebs in combination with a staphylococcus pyoderma. Pemphigoid may go over into Ritter's dermatitis exfoliativa and peaks for an etiologic identity for the two diseases. Further researches are needed to determine whether as appears in his cases, the staphylococemia eventually becomes malignant in both diseases.

Sorgenti reports two cases of *dermatitis exfoliativa* the first of which died at the age of 62 days the disease having lasted 30 days. Blood culture showed staphylococcus aureus this was agglutinated by the blood of the same baby in a dilution of 1 to 40. He thinks that one must consider the dyspeptic state of the baby possibly in the rôle of promoting absorption of poisons through the gastro-intestinal tract. Such poisons would not be neutralized by the liver because of the age of the child and hence would be eliminated partly by the skin there must also be a congenital debility of the skin. In the first stage of the disease the general state was not disturbed and there was no fever. Later there was rapid loss, irregular fever and death in a condition of cachexia.

In the second case the disease began on the fourth day. Examination of the skin in an apparently healthy portion showed that the corneal layer was altered in some places reduced to a detritus in the midst of which leucocytes were seen which stained intensely with hæmatoxylin. The corneal layer had a tendency to become detached from the granular layer and in places the granular layer seemed to be modified. He thinks that in the etiopathogenesis in these conditions alcoholism of the parent especially the mother should be considered.

In conclusion he states (1) *Dermatitis exfoliativa* neonatorum, in the present state of our knowledge from a clinical standpoint frequently begins with a general picture of an acute pemphigus neonatorum of a very grave variety. (2) It differs from pemphigus in that it is produced not only by a parasitic cause but by causes of a toxic,

irritative or mechanical nature. (3) The histopathologic alterations of the skin can vary greatly in intensity and depth according to the various conditions in which the patient may be found. One must regard as an essential predisposing cause the congenital debility of the skin. (4) *Dermatitis exfoliativa neonatorum* is a very serious disease but not absolutely fatal. (5) The disease is rare in Italy.

While admiring the ingenuity of some of these ideas, one must question whether after all, as most authors think *dermatitis exfoliativa* is not simply a staphylococcus infection of the skin of a greater severity than pemphigus.

Sperk reports 11 cases of which 3 lived and 8 died a mortality of 70 per cent which he regards about the average. In one case he was able to propagate the staphylococcus from the blood.

In addition to these cases he reports 4 others of a similar nature. One began as a pemphigus and later proved to be an *erythema adersma desquamata* (Leiner). In one case there was some question as to whether it might have been a form of *dermatitis exfoliativa*. In another case the diagnosis was in doubt but the skin condition was probably due to an excessive sweat secretion. The fourth case was one which showed a *dermatitis exfoliativa* complete in every respect except that nowhere were there to be found bullæ formation or their remains. For the last two cases he suggests the name *exfoliativa lamellosa neonatorum*.

In conclusion Sperr suggests that we take into consideration the characteristic physiologic consistency of the skin of the newborn strong sweat secretion and the loosening of the upper epidermic layers and the simple epidermolysis leading to an extensive separation of the upper layer of the epidermis. This is more than physiologic saturation of the skin. The *dermatitis exfoliativa* of Ritter is an inflammation of the skin confined to the epithelial layers. In the more marked cases of sweat secretion there is shown a rapid progress along the surface skin and through the absorption of poisons and the introduction of bacteria into the body may lead to septicopyæmia. As experience has taught healthy newborn infants with good vascular skin are more subject to the *dermatitis exfoliativa*. In all of his cases both microscopically and by culture he was able to find staphylococci in the bullæ. In one case the staphylococcus pyogenes albus was obtained from the blood. He thinks that *dermatitis exfoliativa* of Ritter belongs in the group of staphylococcus pyogenes pyodermias therefore he believes it contagious and that the cases should be isolated.

Alles has found 2 cases of *scleroderma* of the newborn reported in the literature. One was a case reported by Haushalter and Spillmann where the left lower extremity was atrophic and on this there was seen a band of *scleroderma*. The other case was one reported by Cruse in a child 3 weeks old where the patch of *scleroderma* was on the back. This case resulted in recovery. The result of the first is not noted.

Mayerhofer reports 2 cases of *scleroderma* in the newborn with lesions on the back, buttocks, thigh and upper arm. In the beginning the skin was bluish and gradually became hard. There was no disturbance of general finding. Pirquet and Wassermann were negative. According to Mayerhofer only 6 cases have been described in the newborn.

Lutz reports a case of *congenital hydrops* in a stillborn infant. The mother was markedly oedematous but after delivery made a quick and complete recovery. Examination of the foetus showed no sign of syphilis. Microscopically there were found marked accumulations of cells such as to suggest the picture of myeloid leukaemia. These were especially noticeable in the thymus and the rectal vessels as well as in the placenta. Nucleated red cells were present in abundance.

He states that these cases of *hydrops* must be divided into two classes: those with severe blood alteration which suggest leukaemia and those without blood alterations.

Lahm reports a typical case of *congenital hydrops* with generalized oedema of the skin and serous effusions in the peritoneal, pleural and pericardial cavities with enlargement of the liver, spleen and heart. Spirochaetes were found in the liver and lungs. Osteochondritis was present also pneumonia alba. In spite of the opinion to the contrary that *hydrops* is not a condition caused by syphilis, Lahm thinks that this case may certainly be classed as due to the spirochaete. He thinks that in the causation of the condition not only mechanical factors but chemical and toxic substances must be considered. These latter affect the kidneys and blood making organs and may be produced by syphilis as well as by any other condition of a toxic nature.

Fleischmann and Wolf report a case of partial *hydrops* in a child which died 24 hours after birth. This child had also a very marked haemorrhagic diathesis. Paracentesis of the abdominal cavity and withdrawal of the fluid relieved the asphyxia. At autopsy the child showed ascites, the pleura were free, there was oedema of the pia with slight hydrocephalus and the brain was soft

and oedematous. That the mother had syphilis was not regarded as an etiological factor.

(f) THYROID AND MISCELLANEOUS

Kemy and Fairise report an autopsy on a 2 day-old baby. The child came from a goitrous family. Death was due to asphyxiation of which the first attack occurred a few hours after birth. Repeated attacks continued to occur at irregular intervals until death ensued. At autopsy a large *hypertrophic thyroid* was found, the two lateral lobes of which met behind the oesophagus. The trachea was somewhat compressed. Microscopically there was found an adenomatous increase with venous engorgement.

They also report another case which died in a similar manner on the second day. In this case the trachea was compressed by the anterior and inferior portions of the thyroid gland. The thymus was normal in size. The thyroid enlargement was due to true hypertrophy. The mother who was born of goitrous parents and came from a region where goiter is endemic had a parenchymatous goiter.

Bardin reports a case of *congenital goiter* which at first was a cause of severe asphyxia but hyperextension of the neck made breathing easier. Within 4 days the gland was reduced to half its original size and respiration was free.

Miesels reports a case of *congenital goiter* with enlargement of the thymus in which there was some obstruction to breathing.

Unger reports a case of *congenital myxoedema* and *mongolism*, all of the symptoms of which were easily recognized at birth or very soon thereafter. Only two similar cases have been previously reported. It is altogether likely that the two conditions may occur together rather frequently but one or the other or both are in the modified form. Peculiar in this case is the fact that in the short bones of both wrist joints two distinctly recognizable bone nuclei were to be seen in the X-ray picture which probably speaks for the *mongolism*.

Hochsinger reports a case of *congenital oxycephaly*. In this case contrary to the usual condition the sagittal suture was wide open while the coronary suture was almost completely calcified. The congenital calcification of the coronal suture produced a complete cessation of growth in the two parietal bones. A high grade *exophthalmus* was present.

Goldberg reports 7 cases of *torticollis* in the newborn. From these he draws the conclusion that this condition is not due exclusively to obstetrical trauma. Where obstetrical trauma

has existed the degeneration of Zenker with hypertrophy of the connective tissue has been found. The traumatic lesions are favored by the pathologic state of the muscle.

Joffe reports an autopsy on a boy who died when 2 days old. The mother had a severe hydramnion. Anatomical diagnosis showed extensive lung atelectasis, oedema, hyperaemia, ascites, cavity of the liver, characteristic intima changes in the pulmonary arteries, uric acid infarct of the kidneys, rupture of the tentorium with haemorrhage at the base of the brain. In the aorta and body arteries there was found a necrotic process involving the inner portion of the media and especially the muscle fibers in which calcification had occurred. The elastic

tissue was largely destroyed and in part calcified. According to Joffe the findings agree with those produced by adrenalin poisoning in animals.

Winkler reports the removal of a tumor the size of a child's head from the abdomen of a baby 7 days old. The tumor was an intraperitoneal teratoma and had no intimate connection to the organs of the abdominal cavity. Recovery followed.

Fitzwilliams and Vincent report a gangrene of the right leg in a boy 11 days old, thus progressed and the leg was amputated 24 days later with complete recovery. The cause of the condition was not found. There was no injury, no frost bite and the Wassermann tests were negative. Close to the dead area there was found a slight thickening of the endothelium of the vessel walls.

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ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

ANÆSTHETICS

Smith G G Spinal Anæsthesia in Urology
Inter Med 914 1 89
 By Surg Gynec & Obst

Smith reviews the literature on spinal anæsthesia and considers at some length the chief dangers of this method. The greatest danger he believes is due to the oftentimes marked fall in blood pressure which accompanies its use. He reports a fall of 100 millimeters of mercury occurring within twenty

five minutes. Aside from its influence on the vaso motor system spinal anæsthesia has no injurious effect upon the important organs and is therefore particularly indicated when the kidneys are damaged.

The report of the results of spinal anæsthesia in 100 urological cases operated upon at the Massachusetts General Hospital shows that there were no deaths directly due to the anæsthetic. The method gave the greatest satisfaction when employed for cystoscopy in cases of tuberculous cystitis.

SURGERY OF THE HEAD AND NECK

HEAD

Infrust C Radiography of the Cranium New Arrangement for Immobilizing the Head
 (Note la radiographie crânienne nouvelle disposition pour immobiliser la tête) *Bull Acad d med*
 Pa 9 4 1 1 87 By Surg Gynec & Obst

In radiography of the cranium it is absolutely essential that the head should be in such a position that the median sagittal line is parallel to the plate. In a radiograph of the leg allowance can be made for a deformity of the image but the slightest deformity in a radiograph of the head makes interpretation impossible and may have serious consequences. In his experiments the author fastened two rings on opposite sides of the head placing them absolutely symmetrically over the temporal regions. The normal ray passed through the center of the rings and through the posterior clinoid processes. If the rings were superimposed in the picture it showed that there had been no deformity.

Experiments in varying the position of the tube showed that a change in position of the tube did not affect the verity of the picture if the tube was 70 cm from the plate but if the head was inclined as much as 1 cm in either direction there was a distance of 4 cm between the centers of the circles and the image of the sella turcica was markedly altered.

The author has devised a means of keeping the head motionless. He covers a metallic plate with dentists wax and takes an impression of the patient's mouth. This renders a mold when the picture is to be taken the impression is placed in the patient's mouth and the plate is fixed by the dentists wax. Every firm support that is fastened to the

floor. The support, the plate and the tube-carrier are placed absolutely parallel to each other. With this arrangement a perfectly accurate image of the sella turcica can be obtained. A Goss

Haubold H A Traumatic Aphasia *Surg Gynec & Obst* 9 4 1 869 By Surg Gynec & Obst

The clinical picture presented was unique in that the history of trauma was vague that is as regards severity there was no disturbance of consciousness and the symptomatology was restricted to a complete motor aphasia and ecchymosis in the region of the left eyeball. Additional help was obtained from the findings by the ophthalmoscope which revealed changes in both discs slightly more marked on the left side.

A radiogram showed a small linear fracture of the skull on the side opposite to the apparent brain injury (bursting fracture). At no time did the picture of general cerebral compression obtain.

The skull was opened over the motor area by fashioning an omega shaped scalp flap. A Doyen drill and burr were employed for the primary exposure and the opening was enlarged with a biting forceps.

No lesion was apparent until the dura was opened when two ounces of thick semi fluid blood escaped. A partially coagulated layer of blood was removed from the under surface of the dura corresponding to the speech center.

Blood continued to ooze from the base of the skull. The area was lightly packed with gauze which was removed at the end of forty eight hours.

The patient made an uninterrupted recovery.

Speech gradually returned and reached its normal range in about seven days, at the end of which time the ophthalmoscopic examination was negative.

Bryant W. S. Magnesium Sulphate in Purulent Cerebrospinal Streptococcal Meningitis. B H
W & S J 9 4 clxli 8 2

By Surg Cyne & Obst

Bryant reports in detail a case of purulent streptococcal meningitis secondary to otitis media treated by decompression local drainage and the internal use of magnesium sulphate with recovery from the meningitis death following 100 days later from local encephalitis from recurrence of the local infection.

The patient a male 22 years of age came under treatment ten days after the onset of left earache. He then showed a temperature of 100° pulse 56 rigid neck slight Kernig's sign Babinski's sign knee jerks were absent Cerebrospinal fluid obtained by lumbar puncture showed increased pressure pus and paired and short chain streptococci. Immediate operation consisted in opening the mastoid removal of a 5 inch area of squamous bone with dorsal incision and decompression and drainage. There was marked improvement in the patient's condition on the following day when the administration of magnesium sulphate by mouth in dilute solution was begun and continued in amounts of from one half ounce to three ounces per day through the course of the treatment. On the eighth day the mastoid operation was completed on the twelfth the patient was up and dressed there still being however considerable cerebral herniation through the decompression area. On the twenty-seventh day there were marked signs of infection and intracranial pressure but the cerebrospinal fluid though turbid showed no organisms in the smear or culture. The cerebral herniation increased rapidly on the twenty-ninth day with increasing pressure signs. On the one hundred and first day the cerebrospinal fluid was again turbid but negative to culture and smears. On the one hundred and twenty-ninth day the patient again became bedfast and died on the one hundred and nineteenth day from encephalitis having developed a large fungus cerebri.

The author considers that the recovery from the cerebrospinal meningitis was due in large measure to the internal use of magnesium sulphate and is convinced that the same method used in other cases might prove entirely successful in the final result.

H B LODGE

Nagel, F O: A Case of Hypophyseal Tumor. J
Ophth Otol & Laryngol 9 4 507

By Surg Cyne & Obst

The history of hypophyseal investigations clinical courses, anatomy physiology pathology, and surgery of the disease are discussed in a brief way as the prelude to the history of the author's case.

Diagnosis in this case was made in the increase in

weight of the patient and his temporal hemianopia. X-ray and the rhinologist examination were negative. The urea excretion was watched and phosphorus in increasing doses was given with a rapid loss of vision the same result was obtained with pituitary and thyroid extracts. This treatment was continued over one year at the end of which time the X-ray showed an enlarged sella turcica and the patient was put on very active antisyphilitic treatment under which he showed some improvement for a time.

Operation was advised and vision of 15/20 was the result in three days time. A paracentral scotoma developed which interfered with reading somewhat. At the end of a year following the operation the patient was well and on the strength of this case and the reports of others the author advises early operative procedure in hypophyseal tumor.

SID K. WALKER, J

NECK

Rawles, L. T. Pathology of Goiter. J Indiana
St M 1 914 5

By Surg Cyne & Obst

The author states that the earliest pathology of the thyroid is principally that of deranged metabolism with balance swinging from hypothyroidism over to hyperthyroidism the clinical evidence being so nearly identical that it is very difficult to decide which is the heavier.

In discussing the human and the thyroid and its action on the organism he offers these two hypotheses: (1) The function of the thyroid secretions is antitoxic to unknown toxic substances formed in body metabolism. This unneutralized toxin produces symptoms of auto-intoxication. (2) Thyroid secretions act normally by regulating the metabolism of other parts of the body particularly the nervous system. He dwells on the interrelationship of the thyroid ovaries and pituitary gland and gives the following ten points taken from the works of well-known men to emphasize this point:

- 1 The greater use of the thyroid in the female.
- 2 The enlargement of the thyroid during menstruation and pregnancy.
- 3 The tendency to develop "relative Basedow's disease" during pregnancy.
- 4 The early atrophy of the thyroid after the menopause.
- 5 The loss of sexual appetite in many thyroid diseases.
- 6 The greater number of women who are afflicted with goiter—77 per cent of cases of Graves' disease occur in women.
- 7 Halstead believes that female dogs that have had their thyroids removed when impregnated show evidence of thyrotoxicosis as the time of parturition grows nearer but it soon disappears after the litter is born.
- 8 All pups of these bitches have thyroids many times the normal size.

9 In old dogs thyroidectomy is neither fatal nor accompanied with unusual symptoms

10 Bandler claims that nervous symptoms of the menopause are less annoying if the thyroid and ovaries atrophy at the same time

He discusses the local diseases in the thyroid gland and states that inflammation of the gland is practically always metastatic from some other suppurating focus The one degenerative change is that of calcareous degeneration in case of any foreign body in the gland whether from injected substances or from true dead epithelium or organized blood clot

The author quotes Ochsner in the classification of simple goiters (1) diffuse and (2) nodular diffuse goiter being further divided into colloidal and parenchymatous Colloid goiters are harmless from toxic symptoms The parenchymatous type however is different because of the easy functioning of the epithelium hyperthyroidism may develop

He then describes the microscopic picture of the colloidal type compared with that of the parenchymatous type Exophthalmic goiter may be co-existent with either parenchymatous or papillary cystic goiter He lays emphasis on the importance of refrain from massaging glands of the exophthalmic type

HARRY G SLOAN

Throckmorton G K. Goiter Selection and Preparation of Surgical Risks. *J Ida St M As* 1914 11 54 By Surg Gynec & Obst

The author sums up the manner of selecting cases of goiter for operation in a very clear way He lays stress on the increase of better statistics and post-operative results with our crease in knowledge of Graves disease In selecting cases for operation he thinks the first consideration should be the benefit to be derived from operation and also the danger of the operation Simple goiters are most amenable to treatment Many patients have the operation done for cosmetic purposes alone Again the operation may be performed because of obstruction to the respiratory passages or because of pressure on the trachea The operation may also be demanded on account of suspected malignant absorption of toxin which cripples the heart kidneys and liver in later years He thinks thyroidectomy is contra-indicated in disease of the thymus kidney heart muscles in cirrhosis of liver and in diabetes

He advocates early operation in substernal goiter with pressure symptoms The goiter of adolescence usually disappears spontaneously or under treatment If there are symptoms of goiter without enlargement of the thyroid or exophthalmos operation should not be performed because the patient will receive no benefit Some other ductless glands, such as the adrenals thymus or hypophysis as a causative factor should be looked for He lays stress on the danger connected with the operation in cases of bad hyperthyroidism and advocates its postponement until the acute symptoms subside He quotes Mayo in giving the important

symptoms in their order in making a differential diagnosis of hyperthyroidism viz cerebral stimulation vasomotor disturbance of the skin tremor mental irritability tachycardia loss of weight cardiac insufficiency exophthalmos diarrhoea vomiting mental depression and jaundice Operation in late malignancy of the thyroid is not advisable where there is involvement of the lymphatics except to afford relief from pressure symptoms Severe or acute cases of hyperthyroidism where there is degeneration of the heart muscles with an irregular pulse and low blood pressure should not be operated on In case of a relapse after partial thyroidectomy the patient should be treated medically and if improvement is not rapid it is wise to ligate the vessels of the remaining superior pole Later on the enlarged part of the remaining gland will be removed

The author believes that the mortality has been reduced in these operations because of the better selection of patients and the type of operation done He lays particular stress on the importance of the two stage operation

In cases of acute Graves disease resisting medical treatment where thyroidectomy is not advisable the author thinks injections of boiling water into the gland as advocated by Porter beneficial

In the most severe cases it is better to do the two-stage operation ligating the superior poles first and when the patient recovers a partial thyroidectomy can be done

HARRY G SLOAN

Martin H H. Goiter Surgical Treatment. *J Ida St M As* 1914 11 56 By Surg Gynec & Obst

The author takes up most of the well known surgical procedures in the treatment of Graves disease first entering into the physiology of the thyroid gland and then its pathological physiology where he thinks that changes in the gland have each their different train of symptoms corresponding to their severity He calls attention to the difficulty in differentiating the milder types of thyroid intoxication from those cardiovascular symptoms produced by other intoxications

Martin thinks that after medical treatment has failed every goiter should be operated on cases of mild hyperplasia producing mild symptoms of hyperthyroidism recover spontaneously He deplores the fact that many cases of known exophthalmic type of goiter are treated medically until grave pathological changes have taken place in the heart and kidney contra-indicating further surgical treatment A few neglected acute cases of Graves disease can be made fair surgical risks by the ligation of the superior thyroid arteries, and later on in the course of about four months when they have gained 20 or 30 pounds, offer a safe risk for partial thyroidectomy He advocates ether as an anesthetic and novocaine as a local anesthetic where necessary Asphyxia may be prevented during the operation for substernal goiter by penning the

trachea when necessary. In the author's opinion the results from transplantation of thyroid tissues are too uniformly poor to be recommended.

In summing up he makes seven points:

1 All cases of goiter producing symptoms which have not improved under medical treatment should be operated upon.

2 In cases where the heart is still bad the heart remains dilated albumin being present in the urine prostration and great muscular weakness continuing operation should not be performed.

3 In acute Graves disease where the heart shows one inch dilatation ligation of the superior thyroid vessels is advised.

4 Boiling water injections should be used if improvement does not follow ligation.

5 The use of 1 per cent novocaine for local anæsthetic is advised.

6 A skilled anæsthetist should be employed.

7 In substernal goiters producing pressure symptoms ligation of the superior thyroid arteries is advocated in order to make the cases better surgical risks.

H. RYAN G. SLOAN

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Pfahler G. E. The Treatment of Recurrences and Metastases from Carcinoma of the Breast.
A. A. R. 15 R. 5 19 4 115 0

By Surg. Gynec. & Obst.

The author discusses in detail fifteen cases giving the results of the roentgen treatment.

He emphasizes the great importance of accurately determining the extent of the disease and applying the treatment as promptly and vigorously as possible.

His technique in the cases reported varied with the advance in equipment. At the time the article was published he used a water cooled tube with flowing water. The area to be treated was divided so that deep structures would be reached from several angles thus preventing surface irritation. The areas of skin not directly exposed were protected with lead foil and the exposed skin was protected by filters of leather on eighth of an inch in thickness and aluminum 1 to 4 mm. in thickness the filters being placed at the top of the diaphragm to prevent soiling. The author uses the Sabouraud and Moore pastilles to measure the doses. A delay of two weeks is advised after an erythema dose before that particular area is exposed again. Since the thyroid gland is exposed more or less to the action of the X rays and the thyroid secretion probably reduced the author usually prescribes small doses of thyroid extract.

The following are the author's conclusions:

1 The application of the roentgen rays will at times cause a disappearance of both small and extensive areas of both recurrent and metastatic carcinoma.

2 The disease can be made to disappear when it covers the greater portion of the chest.

3 In at least one case there seemed to be produced some constitutional condition which led to the rapid disappearance of carcinomatous tissue that had not been exposed to the rays.

4 The additional administration of thyroid extract aids in the cure of the disease by maintaining a proper balance of the thyroid secretion.

5 The disease should be treated as actively and with as large doses as circumstances will permit every means being used to protect the skin.

6 Treatment should be begun immediately after operation for carcinoma.

WILLIAM A. EVANS

Moorhead J. J. The Abdominal Treatment of Fracture of the Clavicle. *Post-Grad. 10, 9 4 115 83*
By Surg. Gynec. & Obst.

The author describes a method of treatment of fractured clavicle by means of a plaster spica applied to the shoulder and humerus at right angled abduction to the body. He claims that this gives better apposition than any other method. He advises its use however only in difficult cases or in those where perfect anatomical result is especially desired.

F. C. KOWEY

Mertens G. Anatomical Technical Study of Pneumolysis (Anatomisch-technische Studie zur Frage der Pneumolyse). *Deutsche Zeitschrift für Chirurgie 9 4 115 40*
By Surg. Gynec. & Obst.

Mertens gives a detailed anatomical discussion of the endothoracic fascia with references from the work of many anatomists and surgeons. He thinks the discrepancies in these descriptions are due to the fact that the fascia is very variable and does not offer a uniform picture in different individuals. In only four of fifteen cases that he describes was there a well marked endothoracic fascia in all the others it was very delicate and transparent. It cannot therefore have the importance that has been attached to it by many surgeons in pneumolysis.

He thinks that in pneumolysis the adhesions should always be freed with the finger never with a blunt instrument for the surgeon must depend on feeling rather than sight and for this the immediate touch with the finger is necessary. In chronic tuberculous there is generally little difficulty in freeing the pleural sac from the chest wall, for the adhesions are mostly between the folds of the pleura. A. Mayer performs intrapleural as well as extrapleural pneumolysis, and thinks there is no danger in the opening of the pleura necessitated

Various substances have been used to plug the cavity produced between the pleura and the chest wall. Baer uses bismuth paraffin vioform. Jessen a filling made of wax vaseline and salicylic acid. Gwerder a pneumatic plug made of a closed rubber tube. Tuffier uses fat. Wilms uses parts of the resected ribs. Others use gas. A Mayer thinks that it is not necessary to fill the cavity at all. He believes the lung remains collapsed long enough without it. The author is engaged in making experiments in filling the cavity with blood from the intercostal arteries and veins.

A Goss

Torek F. Interpleural Pneumolysis (Pneumolysis interpleuralis). *Deutsche Zeitschrift für Chirurgie* 1914, CXI, 3. By Surg. Gynec. & Obst.

Torek proposes the operation which he calls interpleural pneumolysis for cases of pulmonary tuberculosis in which pneumothorax would be indicated but where on account of extensive adhesions it either cannot be carried out or would only produce insufficient collapse of the lung.

The operation consists in freeing the adhesions between the folds of the pleura in distinction from extrapleural pneumolysis in which the adhesions are freed outside the pleural cavity. Anesthesia is given by intratracheal insufflation or under differential pressure. An incision about 15 cm long is made in the sixth or seventh intercostal space and after careful hemostasis the pleura is opened. The head is lowered so that if a cavity is opened the contents will be emptied through the mouth. With the tip of the finger the adhesions are first freed near the incision while the ribs are held apart. The freeing of adhesions is gradually continued until the whole hand can be introduced and the most distant parts of the lung freed. When the process is completed the lung collapses as far as the degree of infiltration will permit. It is left in this collapsed condition and the wound closed without drainage.

Care should be exercised in passing over cavities not to make an opening into them. The author describes a case in which such an opening was made and emphysema resulted. Two roentgen pictures of the case are given. The operation is simple and well borne even by patients in far advanced stages of cough and temperature decline. The general condition improves and the cavities disappear.

A Goss

Jacobaeus H. C. and Tidestrom H. M. Method of Overcoming Adhesions That Interfere with Artificial Pneumothorax (En ny metod att lagga adhesionser id pneumothorax handli g i ngt berikola). *Hjgas* 9 4 LXVI, 865. By Surg. Gynec. & Obst.

Jacobaeus and Tidestrom have been improving the technique of direct visual inspection of the interior of the chest and abdomen so that now they say, the pleural cavity can be inspected under local anesthesia without the least discomfort to the

patient. They even found it possible to resect part of a tumor in the pleura after thus locating and inspecting it.

A small actual cautery has been devised for minor operations in the pleural cavity under this technique and with it they have succeeded in severing cord like pleuritic adhesions which otherwise would have completely prevented effectual compression of the diseased lung under artificial pneumothorax. By thus severing one coarse band they succeeded in producing conditions favorable for inducing pneumothorax in a young woman with a large cavity in one lung. The prompt effect of the artificial pneumothorax was remarkable; the general health rapidly improving as the output of sputum became reduced. It had previously been profuse containing numerous tubercle bacilli but ceased almost completely after the inflation. In two other cases also reported in detail similar minor intrapleural operations were done—all without discomfort or the slightest by effects or danger. Roentgenograms are given of the first case both before and after the adhesion had been severed with the cautery.

A Goss

TRACHEA AND LUNGS

Hupp F. L. Tracheotomy; a New Retractor and Tube Pilot for the Emergency Operation. *Surg. Gynec. & Obst.* 19 4, LXI, 671. By Surg. Gynec. & Obst.

Several years ago Hupp recognized the high rate of mortality attending the operation of opening the trachea. He had two fatalities before the operation was completed and realizing the imperative need for some retractor and tube guide which might be quickly and efficiently placed devised an instrument for this emergency operation which he called a retractor and tube pilot.

The instrument is fashioned like a miniature Sims speculum as may be seen by the illustration one end terminating in a probe point grooved on its convex side like the Sims instrument but fashioned so that the two sides converge toward the probe point. When the tracheal rings have been divided it too frequently happens as an effort is made to pass the cannula that the severed rings either through aspiration or pressure are inverted and the patient stops breathing.

If it is just such an emergency that this new dilator and tube pilot may be quickly forced through the blood and the severed windpipe and the asphyxiated patient relieved.

Hupp mentions a series of interesting and useful rules for the operation of tracheotomy and makes the following claims for the retractor.

1. Laryngeal asphyxia from any cause may be relieved with the new instrument and a penknife.
2. It will guide the cannula quickly safely and accurately into the trachea in the presence of copious bleeding.
3. In a short fat neck with suffocating dyspnea relief may be given with expedition.



Fig 1

Fig 2

Fig 3

- Fig 1 Tracheal retractor and pilot
 Fig 2 Showing wide separation of tracheal in gs
 Fig 3 Retractor acting as a pilot

4 It is useful and safe in the hands of the general practitioner

5 Where a second operation must be done in the presence of cicatricial and inflamed tissue the windpipe can be entered without trouble

6 When the tracheal tube has been coughed out a painless replacement may be quickly made

Frangenhelm P. Surgical Treatment of Cavities in the Lungs (Chirurgische Behandlung der Lungenkern) *Med. Klin. Berl.* 94, 1959. By Surg. Gynec. & Obst.

Frangenhelm regards operative treatment as indispensable for a cavity in the apex if it persists little if any modified after all the other tuberculous processes in the lungs have healed. Baer has reported success from surgical treatment of cavities in both lungs. The chances are better when the folds of the pleura are adherent but a cavity in the apex with open pleural cavity does not absolutely contraindicate intervention. With a very large and thin walled cavity there is danger of the wall's suffering from inadequate blood supply. Röntgenoscopy and the exploring finger give warning.

In the treatment of a cavity in the upper lobe the author insists that pneumolysis offers better chances than operations on the chest wall. By pneumolysis he means operative mobilization of the upper lobe after the cavity has been emptied by gravity the patient reclining on his side for an hour. A few centimeters is resected from the second or third rib in front and through a lengthwise incision in the periosteum behind the finger is

worked through between the fascia and the costal pleura and the upper lobe is loosened up all around to correspond to the extent of the cavity. An ope before the operation prevents reflex phenomena and the whole operation can be done under local anesthesia, dabbing the pleura with the anesthetic solution. He has never had any hemorrhage worth mentioning with this operation.

When the part of the lung containing the cavity is thus mobilized the cavity may be obliterated by compression from a paraffin or other filling injected between the pleura and the chest wall. Various drawbacks have been encountered with different fillings. Paraffin is so heavy it is apt to slide down below the cavity and it has also been known to work its way outward through the breach in the ribs causing a suppurating fistula. Friction from the paraffin has also caused gangrene of the lung tissue in some instances. Compression of the lung by an inflatable bag introduced into the extrapleural space is apt to lead to infection. Wilms uses fat tissue as the filling and this seems the best of all for the purpose provided it is not too rapidly absorbed. Mayer insists that the pneumolysis alone without any filling is all that is necessary at first. Later if the lung shows a tendency to expand and open up the cavity again nitrogen can be injected to fill the space. Both Wilms and Baer insist that the filling procedure need not be restricted to old chronic shriveling cases, but can be applied in a recent process with cavities. There need be no fear that the procedure in itself will aggravate the tuberculosis. The cavity is influenced by the pneumolysis much more than by a thoracoplastic operation while the heart, other parts of the lungs and the muscles controlling expectoration are not impaired by it.

When the technique for filling the extrapleural space is further perfected the pneumolysis method will certainly be found extremely valuable for treatment of cavities in the lungs especially in the upper lobe while with diffuse pulmonary disease thoracoplasty answers the purpose better.

A. Goss

Kawamura K. Experiment 1 Study of Extirpation of the Lung (Experimentelle Studie über die Lungenerstirpation) *Deutsche Zeitschr. f. Chir.* 94, 11, 80. By Surg. Gynec. & Obst.

Kawamura describes the results obtained in extirpating one lung—23 dogs he used for the experiments. He finds that dogs can live after the extirpation of one entire lung if they are young they continue to grow without any noticeable interference with growth. Some of the dogs even lived after the extirpation of a part of the other lung also. The chief difficulty in extirpating the lung lies in caring for the bronchial stump. Meyer's method of lowering it is a good one but cannot be used if the bronchus is too short or if the animal is very small.

In many cases the author amputated the lung in the middle between two forceps, ligated the great

vessels and bronchia and closed the wound accurately with a continuous suture. The results were excellent. Expansion of the remaining lung was perceptible at the end of the operation and reached its maximum within 30 to 60 days. The cavity left by extirpation of the lung was completely effaced within about 30 to 60 days by displacement of the heart and mediastinum, increase in size of the remaining lung, rising of the diaphragm, sinking of the upper aperture of the thorax, and sinking in of the wall of the thorax on the operated side. Lateral curvature of the spine developed with the convexity on the operated side. In spite of the fact that he used the hyperpressure apparatus there was no collection of fluid in the thoracic cavity such as Sauerbruch observed. Microscopically the remaining lung showed soon after the operation the picture of acute vesicular emphysema and after a considerable time that of a vicarious emphysema. There was always a true compensatory hypertrophy of the lung, never a hyperplasia. The vessels of the lung were at first markedly dilated, later new formed. The alveoli communicated with each other normally through the pores in their walls. There were no enlarged or coalesced pores in the hypertrophied lungs. The heart was macroscopically somewhat enlarged but as a rule showed no microscopic changes. The operation was easily carried out with the aid of Shoemaker's hyperpressure apparatus. This apparatus also gives excellent service in artificial respiration. A. Goss.

PHARYNX AND ESOPHAGUS

Levin C. Radium Treatment of Carcinoma of the Esophagus and Cardia (Zur Raditherapie des Oesophagus und Cardiacarcinoms). *Therap. d. Gegen.* 1914, 3. By Surg. Gynec. & Obst.

The author has treated 25 cases and with the exception of a few that were hopeless from the beginning he has had more or less favorable results. The subjective symptoms such as stenosis as well as the objective findings on examination with sounds and roentgen rays showed improvement within a comparatively short time. One case was

particularly noteworthy so far as clinical appearances went it was completely cured after five months. The radium or mesothorium was placed in a platinum or gold filter and covered with a hard rubber cover then placed on a slender silk bougie and introduced by means of a hollow sound. As a rule 50 to 80 mg. were used and left in position two to four hours. This treatment was given 2 to 3 times a week for about five weeks and was combined with external irradiation with roentgen rays or radium and sometimes atoxyl injections. A. Goss.

Jianu A. Plastic Reconstruction of the Esophagus (Uler Ösophagusplastik). *Deutsche Wochenschrift* 1914, 40, 397. By Surg. Gynec. & Obst.

Two years ago Jianu published a method of plastic operation on the esophagus consisting of making a tube from the greater curvature of the stomach and bringing it out under the skin of the breast. He now describes in detail two cases operated upon by the method. The patients were children two and four years of age. He finds that the operation can be performed without danger on very young children and even when they are in very poor condition. The new esophagus can be formed from the stomach even in cases where the latter is adherent to the abdominal wall.

Several objections have been urged against the method among them being: (1) That the new formed esophagus was not long enough so that the upper end of it could be brought up under the clavicle. To avoid this difficulty after the gastrocolic ligament is cut the gastrosplenic and gastrophrenic ligaments must also be incised. (2) That the secretion at the upper end of the tube digests the skin around it. Where this occurs it is the result of a technical error. The mucous membrane should be taken from the pyloric end of the stomach where it contains only mucous glands. (3) That peristalsis in the tube forces the food back so that the stomach is emptied in the wrong direction. This is due not to peristalsis for the tube is so placed that antiperistalsis occurs but to the fact that the new esophagus is made to open much lower down toward the pylorus than it should. A. Goss.

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Levit J. Hernias in Unusual Anatomical Positions (Beitrag zu den seltenen Hernie Brüchen mit seltener anatomischer Lage). *Cas. lek. f. k.* 9, 3, 14, 387, 430, 463, 504, 57, 56, 580, 64, 637.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Abdominal hernias, except those of the linea alba and linea p. geln. are generally the result of operations more rarely of injuries or abdominal inflammations. Twenty-one cases of free abdominal hernias were observed: 8 in men and 3 in women.

and 16 incarcerated ones: 1 in a man and 5 in women. The patients were from 15 to 65 years of age. Sixteen cases had been preceded by operations for appendicitis; 5 of them incisions of abscesses without appendectomy; 11 were operations for peritonitis in the intermediary stage with drainage. In one case there had been operation for an incarcerated inguinal hernia; in 3 cases for umbilical hernia; and in one each for resection of the small intestine on account of tubercular stricture, ovariectomy and caesarean section. One operation was for recurrent abdominal hernia which had appeared after punc-

A case of diaphragmatic hernia operated upon by the author's father has not heretofore been published. A boy 14 days old had a hernia as large as a nut between the sixth and seventh right ribs, containing liver and small intestine. After reposition a celluloid plate was inserted between the diaphragm (peritoneum) and skin.

Another case was that of a 23 year old man who was stabbed in the left side of the thorax. The result was dyspnoea, no respiratory movements of the left half of the thorax, intercostal spaces bulging. There was dullness at the left apex anteriorly to the third rib, dullness with tympanic accompaniment sound posteriorly, there were tympanic sounds from the spines of the scapula to the ninth rib. There was a deep stab wound 7 cm long between the eighth and ninth ribs in the posterior axillary line. On opening the wound a large hole was found in the pleura and there were fragments of ribs that had been splintered off. The lungs were collapsed and at the bottom of the pleural cavity omentum could be seen. Just back of the highest point of the diaphragm there was a hole in which the omentum was incarcerated. The opening was enlarged and the omentum replaced. The diaphragm was sutured in two layers and the sutures covered with parietal pleura. Recovery followed the closure of the thoracic wound. KLAUSEN

Zollinger F: Traumatic Hernias: the Duty of Submitting to Operation (Traumatische Hernien Operationspflicht). *M natschr f Unfallheilk* Leipzig 1904

By Zentralbl f d ges Chir u l Grenzgeb

The author discusses from a medicolegal point of view the duty of an insured person's submitting to operation. The Swiss Federal Court leans toward the opinion of the German court and acknowledges the duty of being operated upon only when the operations are beyond doubt simple and without danger. Heretofore it has not considered that operation for traumatic hernia belonged in this class. The last decision of the Federal Court however modifies this opinion decidedly and has established a precedent. The court declared that if the hernia was small the prospects of permanent recovery were very good and the danger of the operation under local anesthesia almost nil, even considering the possibility of embolism, therefore the Court of Appeals of the Canton of Basel came to the conclusion that the complainant must submit to operation. The Federal Court as a court of appeal confirmed the decision of the lower court. GLASS

GASTRO-INTESTINAL TRACT

Pirie A. H: Cinematography of the Antrum Pylori, Pylorus and First Portion of the Duodenum. *A h Ro ig Ray* 9:4 1913 63

By Surg Gynec & Obst

Pirie has designed a table for producing several x-ray cinematograms for instance of the duodenum

upon one plate. With the aid of the fluoroscope the patient is posed after the method of Cole. By a device described and illustrated in the original article successive portions of the plate are exposed. Six exposures 4x5 are made on one 10x12 or sixteen 3 5x4 25 on one 14x17 plate.

The change takes one half second, the exposure varying with the apparatus, the sixteen exposures occupying not over 32 seconds.

The reproductions accompanying the paper sixteen views—each of a normal duodenum, a pylorus with adhesions and a duodenal ulcer—are a sufficient proof of the utility of the device.

The table is also so fitted that any pair of roentgenograms may be stereoscopic or the whole series may be made in stereoscopic pairs. The stereoscopic shift may be either lengthwise or crosswise of the patient. DAVID R. BOWEN

Lichty J. A. Some Clinical Aspects of Gastric Hemorrhage. *Am J M S* 1914 cxi: 11, 680

By Surg Gynec & Obst

Lichty discusses the statistics regarding the frequency of hemorrhage which seem to differ widely. This variance is probably due to observation which is very apt to be unreliable. In the author's own case blood was reported to have been seen or found chemically or by the Einhorn string test in 43 per cent of cases. However he feels quite sure that at some time it was evident in the remaining 57 per cent but was not detected. On account of the many possible sources of error in the chemical occult test, he thinks the Einhorn string test is somewhat more reliable yet not too much dependent on it. A negative string test is more reliable than a positive one.

In the past ten years the author has seen six cases of gastric or duodenal ulcer in which sudden marked and alarming hemorrhages occurred immediately upon the withholding of food by the mouth. One of these proved fatal. He has also noticed this phenomenon in a few cases of gastric carcinoma. The theory most widely accepted as regards the causation of gastric ulcer is probably lowered general vitality, localized traumatism and increased or changed secretions. Hydrochloric acid is an irritant to all tissues except the normal mucous membrane of the stomach. It would seem reasonable that hydrochloric acid especially when present in high values not combined with certain foods would cause increased irritation resulting in hemorrhage.

The statistics of hemorrhage from the stomach whether of hematemesis or melena or as revealed by occult blood tests or by string tests are of very little value.

In the treatment of acute peptic ulcer or acute exacerbation of chronic ulcer especially when accompanied with hyperchlorhydria food should not be withheld from the stomach at once.

Surgical treatment for gastric hemorrhage has a very limited but definite field.

HENRY J. VAN DER BERG

Friedenwald J. A Clinical Study of One Thousand Cases of Cancer of the Stomach. *Am J Med Sc* 94: 660. By Surg. Gynec. & Obst.

The author presents a carefully tabulated report of one thousand cases of cancer of the stomach and comes to the following conclusion:

1 Of patients suffering from various gastric disturbances 9.6 per cent are affected with cancer while but 7.8 per cent have ulcers.

2 The largest proportion of cancers occur between the fortieth and sixtieth years of age while the largest proportion of ulcers occur between the twentieth and fiftieth years.

3 The greatest number of cases occur in male (538 males and 462 females).

4 Of patients affected with gastric cancer there is a hereditary history of cancer in 9.4 per cent cases.

5 A definite history of trauma occurs in 1.9 per cent of cases.

6 Anemia is present in 82 per cent chronic endocarditis in 11 per cent arteriosclerosis in 69 per cent.

7 Seven per cent gave a direct history of former ulcer and only in 3 per cent could the cancer have formed from ulcer.

8 A history of overindulgence in food or drink can be obtained in about half of the cases of cancer.

9 The greatest proportion 89 per cent of cases of cancer present an acidity 3 per cent show a normal acidity, 4 per cent show hyperacidity and 3 per cent, subacidity. Lactic acid is present in 81 per cent of cases. The *Oppler Boas bacilli* in 79 per cent, sarcinae in 32 per cent, coffee ground contents in 61 per cent.

10 The average duration of life is less than one year in 66 per cent of all cases, between one and two years in 2 per cent and over two years in 1 per cent.

11 Period of improvement, including gain in weight are not uncommonly observed for a short time in cancer of the stomach.

12 Latent cancer occurs in 1 per cent of the cases.

13 Dysphagia is present in 7 per cent of the cases and pain the most frequent of all symptoms in 93 per cent. Tenderness abdominal areas are present in 69 per cent.

14 Anorexia and vomiting are most prominent symptoms being present in 89 per cent of cases.

15 Hematemesis is present in 5 per cent of all cases, and melena in 19 per cent. Occult blood appears in the stools in 92 per cent.

16 The tumor was sufficiently advanced to be palpable in 72 per cent of cases but only in 30 per cent of these cases within a half year of the first appearance of symptoms while in 60 per cent of cases this symptom was manifested after the first six months.

17 Clinically in 60 per cent of cases the cancer is located at the pyloric area in 7 per cent at the cardiac area and in 30 per cent the cancer is a general involvement.

18 Ninety nine per cent of the gastric cancers are primary and but 1 per cent represent secondary growths.

19 Dilatation of the stomach occurs in 47 per cent of cases.

20 Perforation occurs in 2 per cent, fever in 43 per cent, ascites and edema in 21 per cent, jaundice in 3 per cent and metastases are present in 67 per cent.

21 Operation was performed in 28 per cent of the cases in 52 per cent of these there were exploratory laparotomies in 37 per cent gastro-enterostomies in 8 per cent gastrotomies and in 3 per cent pylorotomies and gastrectomies. In but a small proportion of cases did the patients survive more than a year after operation.

22 As determined by operation or autopsy the location of the growth was as follows: In 59 per cent there was pyloric involvement in 8 per cent cardiac involvement in 8 per cent involvement of the lesser curvature in 4 per cent of the greater curvature, in 2 per cent of the fundus, and in 19 per cent there was a general involvement.

The early diagnosis of cancer of the stomach is usually quite difficult for the most important symptoms may be absent even though the growth may have already assumed considerable proportions.

The most important sign of this disease the presence of a palpable tumor is observed in 72 per cent of cases and yet in 60 per cent of cases it makes its appearance six months after the first appearance of symptoms, and it cannot therefore be relied upon as an early sign of the disease.

The absence of free hydrochloric acid is a frequent sign and it is present in 89 per cent of cases, and yet the symptom is so frequent in other conditions that it loses much of its value.

Signs of pyloric obstruction with consequent dilatation are noted sometimes and when present early are of the greatest diagnostic importance. According to the author one of the most constant signs is an early manifestation of the disease is the presence of occult blood in the stools. It was present in 92 per cent of the series of cases. The continued occurrence of this sign whenever there is a suspicion of cancer points rather certainly to the presence of this disease.

A history of some previous digestive trouble was observed in 23 per cent of cases. Of these 109 had slight attacks of indigestion for a period of five years or more preceding the present gastric disease while 25 had slight attacks during the five years preceding the present disease. Of the remaining 3 cases 23 had chronic indigestion more or less all of their lives while 29 had chronic indigestion mainly during the last years preceding the present illness.

Seventy three cases had a definite history of former gastric ulcer. It is therefore evident that in the 1,000 cases but 23 per cent presented a history of any previous digestive disturbance even in the

highest degree and that but 7.3 per cent gave a direct history of ulcer. If therefore all of the former digestive disturbances be considered as due to ulcer the formation of gastric cancer from ulcer could not have taken place in more than 23 per cent. If all of the case with slight digestive disturbances be disregarded in the series this percentage is reduced even to 12.3 per cent. The author therefore believes that from a study of his own cases from a clinical point of view as well as from the pathological studies of Aschoff that the figures of Wilson and MacCarthy — 71 per cent — so often referred to are far too high.

The early diagnosis of cancer of the stomach is still difficult and the author advises exploratory incisions in all patients over forty years of age in whom there is a suspicion of malignancy. Excisions of gastric ulcers should be considered on account of a certain proportion becoming malignant.

RE BY J VAN DER BERG.

Januschke II: Some Physiological Points in the Treatment of Stomach Ulcer and Related Conditions (Einige physiologische Gesichtspunkte in der Behandlung des Magengeschwüres und verwandter Zustände). *The J. Monatsh. Berl.* 94 VII 44.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Many nervous persons suffer from spasms of the muscularis mucosae of the stomach that lead to ischaemia and finally to ulcer of the stomach. The irritation that produces the convulsions of the muscles can be overcome by excluding the motor endings of the vagus. Atropine accomplishes this. Five drops of a 1 per cent solution of atropine sulphate is given three times daily one half hour before meals. This amounts to about 0.3 mg atropine sulphate at a dose. If this does no good the dose is increased to 0.5 mg three times daily.

There are two reasons why stomach cramps do not always yield to energetic atropine administration. There may be spasm of the pylorus also in such cases atropine solution should be given per rectum or subcutaneously or there may be an abnormal occlusion by contracture of the sphincter of the pylorus in such cases it is probable that nothing can be accomplished by atropine. This sphincter is innervated by the sympathetic and there is at present no known means of excluding the sympathetic nerve endings but papaverine hydrochloride diminishes the sensitivity of the smooth muscle to nervous and other irritations. It is given in centigram doses by the mouth or subcutaneously. The recommended maximum first dose 6 cg internally or subcutaneously and 1 cg intravenously.

In cramps of the muscles of the stomach that are caused not only by the vagus but also by other irritations from the nerves or the blood it is desirable to give a combination of atropine and papaverine. Morphine should not be used and opium should be replaced by papaverine.

Food stuffs and their relation to motility are discussed with reference to sparing the mucous membrane of the stomach and saving it from irritation. Among the most effective means of excluding irritation is anesthetizing the mucous membrane. Anesthesia in powder form is given two or three times daily by the mouth in doses of from 0.3 to 0.5 gr. Anesthetics also cause a decrease in certain inflammatory exudative processes. An accurate analysis of the means of stopping pain is also of value in diagnosis — diagnosis through therapeutics. If stomach pains disappear under atropine they are due to muscle spasms if anesthesia or novocaine is necessary to complete the effect it indicates that there was a true inflammatory or wound pain. The results of papaverine in diagnosis are not uniform. If abdominal pains disappear on the inhalation of amyl nitrite (lead poisoning and many nervous affections) then the result is caused by the dissolution of a spasm of the blood-vessels. Hyperaemia decreases irritation, quiets pain and exercises a curative effect in the diseased tissues. It is produced by heat.

WEINBERG

Payr: Indications for Operative Treatment of Ulcus Callosum Ventriculi (Zur Indikationstellung der operativen Behandlung des Ulcus callosum ventriculi). *Zentr. Bl. f. Ch.* 1914 I 1065.

By Surg. Gynec. & Obst.

By ulcer callosum Payr indicates that form of ulcer of the stomach characterized by an extensive firm induration palpable in the wall of the stomach and visible on the surface. The serosa is very vascular and fine or coarse adhesions may be present. The wall of the stomach has a chronic oedematous consistency with scarlike contractions and shows extensive infiltration. The regional lymph nodes are usually enlarged. Tumor forming ulcers are seen especially in the region of the pylorus and are differentiated with difficulty from carcinoma. All these varieties of ulcer may become carcinomatous. Histologic examination of a regional lymph gland during the operation may fail in establishing the diagnosis of carcinoma. Payr advises resection in all cases of callosum ulcer if the patient's condition will permit. Gastroenterostomy is reserved for simple ulcers, duodenal ulcers and pyloric stenosis due to ulcer.

E. P. ZEISEL

Perthes, G: Resection of the Stomach for Ulcer of the Stomach (Über die Resektion des Magens bei Magengeschwür). *Arch. f. kl. Ch.* 914 cv. 80.

By Surg. Gynec. & Obst.

Recent work by surgeons and radiologists has shown the great frequency of spastic hour glass stomach. Von Bergmann and others think that this may be not only a result of ulcer of the stomach but a cause of it. The spastic contractions are due to a general nervous disturbance of the vagus and sympathetic. The contractions shut off the vessels, and lead to nutritive disturbances, ischaemia and

curicular incision in the serous and muscular coats around the ulcer down to the mucous membrane. He then covers the mucous membrane with a strip of fascia taken from the sheath of the rectus and by simple suture covers the defect in the serous and muscular coats. The advantage that he claims for his method is that in incising the muscle Auerbach's plexus is cut which conducts the peristaltic stimulus and thus stops the frequent cramplike contractions that otherwise take place. **BERNARD**

Guleke N Results of Exclusion of the Pylorus by Ligation (Ergebnisse der Pylorusausschaltung durch Fadenumwicklung) *Arch f. kl. Ch.* 19 4 67 By Surg. Gynec. & Obst.

Kelling and Parlavacchio's method of excluding the pylorus by ligation has fallen more or less into discredit because of some clinical failures that have been observed and because of a series of animal experiments conducted by Tappener. These showed that ligatures around the intestine or pylorus in dogs cut through the wall and were discharged into the intestine; they were eliminated after two or three months and only left a fine linear scar which did not obstruct the lumen at all. The author himself had made a series of animal experiments with similar results. But he had a number of cases in which the method seemed indicated on account of its simplicity and the short time required so he used it in 13 cases, and for the sake of testing the results has examined the patients after periods varying from six months to two years. He examined the contents of the stomach chemically and took roentgen pictures to determine whether the food was passing through the pylorus or the gastro-enterostomy opening. Two of the patients died so that 11 were left for examination. The clinical results were good in all except one patient who complains of hyperacidity. The patients are able to work and some of them are men doing very heavy work. Among the 11 cases the pylorus is open in only 2 as shown by roentgen examination. In the other 9 it is practically impenetrable; the food under normal conditions passes through the gastro-enterostomy opening. In some cases it can be forced through the pylorus but this is of no practical significance. The author thinks therefore that the method is indicated in cases where the patient's condition demands rapid operation and in cases where an ulcer of the pylorus or duodenum has just perforated and the operation cannot be carried out under aseptic conditions. Care should be taken to constrict the pylorus to just the right degree for if the ligature is not pulled tight enough the pylorus is of course left open and if it is pulled too tight it will cut through the wall. **A Goss**

Quimby A J Roentgen Interpretation of Intestinal Condition *Am J Roentgenol.* 9 4 309 By Surg. Gynec. & Obst.

Quimby employs both the roentgenoscopic and roentgenographic methods and insists that the for-

mer method adds so materially to accuracy of diagnosis that any possible danger connected therewith is fully discounted. Neither method alone can produce results in any way commensurate with their combined use. Manipulative roentgenoscopy becomes extremely valuable in studying duodenal adhesions, ileal kinks, retrocecal appendices, etc.

Quimby believes that simple ptosis is without harm and does not interfere with intestinal function although it may influence the welfare of the other viscera. If the pylorus and duodenum descend with the stomach the drainage will be satisfactory and function will still be maintained.

The author makes a practice of using from four to six ounces of bismuth subcarbonate and continuing the patient on a normal diet withdrawing all cathartics for a number of days preceding the examination. A thorough cleansing of the bowel improves function for an indefinite period and tests under such conditions may lead to false findings of stasis. He contends that the patient should not be permitted to be down for eight hours there after because if gastric delay is due to kinking of the duodenum this might be corrected by the upward displacement of the stomach. Similar precautions are necessary in studying delays by duodenojejunal kinks.

Contrary to some other reports the author finds that the appendix is most apt to fill after a large enema becoming especially visible twenty-four hours after the enema, his explanation being that the appendix was filled with feces that prevented the entrance of bismuth that has already been administered by mouth at the same time the enema was given. Quimby states that he has never failed to find some portion of the appendix when the examination was directed toward the appendix alone. The trained hand can examine the appendix cæcum and terminal ileum in a very few seconds.

He records some interesting observations upon colonic stasis, some of which are quoted as follows:

A distended rectum and pelvic sigmoid will push the ileum upward and may carry the cæcum up and if the ileum is filled with gas or feces the transverse colon and stomach are elevated. Mesenteric bands and contracted mesentery have a predilection for forming at the following places just above the cæcum on the ascending colon, a short distance from the hepatic flexure at the junction of the descending colon with the ileal sigmoid and at the junction of the ileac and pelvic sigmoid.

He offers the remarkable convictions that nature has established certain compensatory phenomena that equalize the material supplied the intestinal tract and by that tends to prohibit the reception of more material after a safe amount has been received and that the quantity is dependent on the power of any special portion to digest the amount therein and that pyloric spasm is partly due to a protest against more food entering the intestine after a given amount has preceded etc.

E H SKINNER

At first he thought that all such adhesions were inflammatory in nature but has concluded that many of them are congenital. The Americans give special names to certain adhesions such as Jackson's membrane and Lane's link and moreover they try to establish a difference between congenital and acquired adhesions claiming that the congenital ones are broader and more velvety and less vascular and that the acquired ones are firmer and more vascular. The author does not recognize such a distinction but thinks that the acquired adhesions change in time to a picture resembling that given for the congenital ones. In the literature he finds that about 50 per cent of new born children show adhesions. Almost all adult women who have had any abdominal disease show such adhesions the remaining ones having arisen from inflammatory changes generally in the intestine. The almost universal constipation in women is one of the causal factors.

Among 20 microscopically normal appendices 13 were surrounded by adhesions. This shows that the inflammation originated outside not inside the appendix. As his cases are gynecological he has no opportunity of examining the upper part of the large intestine but judging from the frequency with which the cæcum and sigmoid are diseased he thinks the whole of the large intestine is often involved therefore more attention should be given than heretofore to the treatment of the intestinal disease rather than of the local process in the appendix. Status of intestinal contents from a diseased intestine in the appendix is much more apt to cause appendicitis than the contents of a normal intestine the resistance of the tissues of the appendix is of course reduced also by the general intestinal disease. Probably intestinal toxins play an important part too in disease of the appendix. In the beginning of appendicitis it is not a question of bacteria but of toxic changes in the tissue. The bacteria found in the late stages of acute appendicitis play only a secondary part. Another possibility is that nervous disturbances in the vagus and sympathetic cause circulatory changes in the appendix that lead to disease. Such nerve disturbances may be initiated by intestinal toxins.

There are doubtless many cases of acute disease of the appendix that have passed without the patient being aware of them if the cæcum was in good condition so that the contents of the appendix could be readily discharged. Many cases diagnosed as chronic appendicitis are in reality typhilitis or typhlocolitis. Many cases are sent to the gynecological clinic with a diagnosis of ovarian inflammation that are in fact cases of sigmoiditis. In operations for chronic appendicitis the author thinks a large incision should be made laying bare the cæcum and ascending colon. He does not attempt to decide whether treatment should consist only in loosening adhesions or whether a mobile cæcum should be fixed but desires chiefly to emphasize the fact that the appendix alone should not

be considered in appendicitis but the entire intestinal tract should be studied. A bibliography of 83 titles follows the article. A Goss

9 Herl S. The Increased Resistance of the Peritoneum to Infection in the Treatment of Acute Appendicitis (Die gesteigerte Widerstandsfähigkeit des Peritoneums gegen Infektion bei der Behandlung der akuten Appendicitis). *Mitt. a. d. G. g. b. d. Med. u. Chir.* 1914, vi: 807.
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

By previous research the author has shown that a prophylactic intraperitoneal injection of physiological salt solution increases the resistance of the peritoneum to bacterium coli infection sixteen fold and that the injection of a sterile culture of bacterium coli has a somewhat more pronounced effect in the same direction—the resistance being increased twenty fold.

The author has performed a new series of experiments and determined (1) that the toxin of bacterium coli introduced into the peritoneal cavity by chemotaxis and phagocytosis causes a stronger local immunizing effect than nucleic acid (2) that bactericidal substances (alexins and agglutinins) appear in greater quantities in the blood of animals into whose peritoneum bacterium coli toxin has been injected than in the blood of those injected in a similar way with nucleic acid (3) that in the blood of patients with peritonitis from appendicitis substances are present that agglutinate the colon bacilli that have infected the peritoneum. As a result of this latter observation and based on general pathological considerations the author has resolved to go farther in the primary closure of appendix wounds than he has hitherto done. He reports his 27 cases in which there were more or less pronounced symptoms of peritoneal reaction but no peritonitis and in which there was healing by first intention and gives a table of the results.

WZM.

Zahradnický F. Results of Appendicitis Operations for 1913 and for a Period of Sixteen Years (Ergebnisse der Appendicitisoperationen des Jahres 1913 und der Ergebnisse derselben während 6 Jahren). *T. tiské*. Cas. lek. k. 1914, lvi: 535.
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

In 1913 137 cases of appendicitis were operated upon with 4 deaths or 2.9 per cent. Of 15 internally treated 2 cases which were not misdiagnosed from peritonitis died 13.3 per cent. One hundred and one were operated on during the attack 53 of them early before the seventy-second hour and one died 1.9 per cent. Of the 48 operated upon in the intermediary stage 3 died 6.3 per cent.

The intermediary operations have increased because the cases are more severe and because on account of improved technique more patients are operated on in this stage the mortality has sunk from 50 to 6.3 per cent. Thirty-six cases were operated upon between attacks. Of the 53 early

cases 10 had gangrene of the appendix with diffuse suppurative peritonitis no deaths resulted 15 had gangrene with circumscribed peritonitis and one died of post operative ileus, 66 per cent Among the intermediary cases 6 had diffuse peritonitis and all of them recovered and 24 had circumscribed peritonitis with three deaths or 12.5 per cent

In 12 years 641 cases were operated upon with 35 deaths or 5.4 per cent 343 during the attack with 34 deaths, 9.9 per cent 25 early cases with 7 deaths 3.2 per cent 127 in the intermediary stage with 27 deaths, 21.4 per cent 299 interval operations with 1 death from pulmonary embolism. Among the early cases there were 47 of diffuse peritonitis with 4 deaths 8.5 per cent 94 of circumscribed peritonitis with three deaths 3.1 per cent Among the intermediary cases there were 30 of diffuse peritonitis with 24 deaths 80 per cent

The deaths were chiefly among the younger patients and in the cases that came for operation very late Fifty-six had circumscribed peritonitis with three deaths 5.3 per cent

The circumscribed processes do not have a markedly higher mortality in the intermediary stage but the cases of diffuse peritonitis at this time have an enormously high one 80 to 100 per cent In spite of the fact that the interval operation is practically without danger and the results of operation in circumscribed processes in the intermediary stage are not markedly worse than in the early stage every case of severe appendicitis should be operated upon as early as possible in order to prevent the appearance of diffuse peritonitis which has a relatively favorable prognosis in the early stage but a very bad one in the intermediary stage Circumscribed cases should be operated upon in the intermediary stage rather than delayed for the subsidence of the attack. However cases of diffuse peritonitis with poor general condition should not be operated upon at this stage in the earlier years 24 cases were operated upon with 100 per cent mortality in recent years 6 cases with no deaths

In the early stages it is impossible to determine whether the intra-abdominal changes are mild or severe in degree but as in two thirds of the non-operated cases there are recurrences operation in mild cases at least prevents the possibility of severe recurrences More than half of the cases operated upon in the interval had abscesses perforations or severe adhesions so that the operations were very difficult Of recent years such changes have been more unusual because generally the severe cases have been operated upon during the attack

The post-operative complications observed were 8 intestinal fistulae 6 of which healed spontaneously 4 abdominal hernias in 3 of which radical operations were performed and in spite of the fact that half of the cases were drained 9 cases of ileus from adhesions with 4 deaths

True recurrence can take place only if the appendix is not completely removed The pseudo-

recurrences were typhilitis or secondary abscesses in the neighborhood of the appendix these generally recovered spontaneously but in 4 cases late exacerbations were observed one recovered spontaneously after 3 and one after 4 years one had a suppurative fistula and was cured by drainage after six months one after two years

Etiologically the author thinks appendicitis is an infectious disease family predisposition (Melschior) plays a subordinate rôle KLASZKA

Pfahler G E: The Study of Chronic Intestinal Stasis by Means of the Röntgen Rays *Surg Gynec & Obst* 19 4 112 678.
By S R Gynec & Obst

While the diagnosis of chronic intestinal stasis can be suspected from clinical symptoms, it can be determined only by means of the röntgen rays Pfahler's technique is as follows Without previous purgation or starvation one hour after the patient has had breakfast he is given, as recommended by Jordan one glass of water containing 4 ounces of bismuth subcarbonate and one half ounce or more of sugar of milk By manipulation of the stomach the bismuth can be made to mix with the food in the stomach While this is not the best mixture for the study of gastric ulcer carcinoma, or duodenal ulcer gross defects in the stomach can be outlined The patient is then examined fluoroscopically in the vertical and horizontal positions at 3 6 9 12 and 24 hour intervals or as many as the röntgenologist deems necessary

Retention in the ileum cannot be looked upon as stasis unless it be present at the end of 9 or more hours Stasis in the ileum may be due to kinks adhesions, and spasmotic or organic constriction of the ileocecal valve It may also be due to a patulous ileocecal valve which permits reversed peristalsis

Stasis in the caecum and ascending colon is recognized by retention of the bismuth mixture in this portion of the bowel 24 hours after it is given The stasis may be due to a kink at the hepatic flexure or to adhesions secondary to gall bladder disease or to a perforated gastric or duodenal ulcer

Stasis in the ascending or transverse colon may be due to stenosis at the splenic flexure which in turn is usually due to kinks or adhesions Obstructions at the splenic flexure and stasis in the transverse colon may also be caused by splenic loops These loops consist of an elongation of the colon in the region of the splenic flexure which permits accumulation of gas and a twisting of the colon causing temporary blocking of the progress of the colonic contents

Obstruction to the flow in the descending colon may be due to spasms, adhesions, neoplasms kinks, or twists Kinks in this portion of the bowel are frequently due to a redundancy sigmoid The method by which adhesions spasms, kinks, neoplasms, etc in any portion of the bowel are differentiated is detailed in full in the original article

Stasis within the rectum may be due to spasm of the anal sphincter to actual organic obstruction or more commonly to a loss of sensation of the desire to stool

In the study of intestinal stasis the bismuth meal should be followed through the intestinal tract and this should be supplemented by giving an enema and making a careful fluoroscopic and roentgenographic examination. Colonic injections show best the various organic constrictions of the bowel the presence of loops and the presence or absence of a patulous ileocecal valve

Case J T. A Critical Study of Intestinal Stasis Including New Observations and Conclusions Respecting the Causes of Ileal Stasis S. J. Gynec & Obst 19 4 214 302
By Surg. Gynec & Obst

While doubting the advisability of many of the radical operations for the relief of constipation especially those based upon the presence of ileal kinks Case urges the importance of recognizing the danger of continued intestinal stasis and of relieving it. So called Lane's kinks and other adhesions of the terminal ileum are recognized as occasional causes of ileal stasis. In the majority of Lane's kinks found in Kellogg's surgical clinic at the Battle Creek Sanitarium there has been no obstruction discernible and the kinks have been conceded to be of secondary importance.

Spasm of the ileocecal sphincter is also recognized as a probable cause of ileal stasis. Spasm of this sphincter being analogous to spasm of the pyloric cardiac and anal sphincters and probably due to similar causes.

In the author's opinion the majority of cases of ileal stasis are due not to Lane's kink even though it may be present but to a new and additional cause of ileal stasis viz incompetence of the ileocecal valve. More than five hundred cases of ileocecal valve incompetency have been studied and in practically every case there have been all the clinical evidences of alimentary toxæmia. Ileocecal valve incompetency has been proved not only by the passage of a bismuth enema though the ileocecal valve into the ileum but also by the observation made in more than fifty cases where ingested food regurgitated from the caecum into the ileum.

Still further evidence of the importance of the normal competence of the ileocecal valve is afforded by operative findings. In nearly one hundred cases operated on by Kellogg for repair of the ileocecal valve post operative studies have shown a very marked diminution of the ileal stasis with reduction and in most cases complete disappearance of the clinical evidences of stasis.

The splendid results which have been accomplished in certain extreme cases by radical surgical treatment such as short circuiting with or without removal of the colon are noted but Case takes a stand against the tendency to radical operative interference for the relief of intestinal stasis. He

concludes that short-circuiting and colectomizing operations are hazardous. Appendicostomy has been unsatisfactory. The colon is more of a misused than a useless structure. Non-surgical treatment especially dietetic should be given a thorough trial.

He believes it reasonably proved that incompetency of the ileocecal valve does account for the ileal stasis in a considerable proportion of cases of intestinal toxæmia including many cases of well developed Lane's kinks and hence if any operative procedure at all is indicated a simple operation for repair of the incompetent valve such as the one published by Kellogg is sufficient except in very rare cases. Thus far this operation has usually been performed in connection with some other surgical procedure which required the opening of the abdominal cavity.

Rauchenbichler R. von Primary Resection of the Large Intestine (Zu Frage der primären Dickdarmresektion) Arch f M Ch 1914 cv 181
By Surg. Gynec & Obst

The author discusses the value of primary one stage resection of the large intestine in comparison with the operations in two or more stages that seem to be preferred by most authors. He concludes that the one stage operation is contra-indicated in acute ileus but that in chronic ileus there is no contra-indication to this procedure. The operative mortality with this method of operation is not greater than that of the operations in several stages and it is to be preferred from the fact that it is a one stage operation and therefore requires less loss of time for the patient. In many cases it admits of the radical removal of extensive foci of disease that because of their extent could not be reached by other methods. In these cases of extensive disease the adherents of the several stage methods are obliged to be content with palliative operations such as entero-anastomosis and the making of an artificial anus. Therefore the results obtained by one stage operation must be regarded as better than those of the operation in several stages. Histories of 37 cases support these views. A. Goss

Jones D F Cancer of the Rectum B. N. M. & S. J. 9 4 cl 21 739
By Surg. Gynec & Obst

The author reiterates that carcinoma of the rectum is not a benign disease and quotes Harrison Cripps figure of 107 cases operated upon out of 445 examined only 9 per cent of the total number were alive five years after the operation. At the Massachusetts General Hospital only 4 per cent of the total number entering the hospital were alive within three years after operation.

The measures advocated to improve the unusually fatal character of the disease are (1) to warn the public as to the seriousness of rectal bleeding (2) to teach the physician that the condition demands a rectal examination (3) the idea must be spread that an ileac colostomy or sacral anus is not such a terrible thing as it is generally believed to be.

cardiac dilatation. Paravertebral anaesthesia with 5 ccm of a 1 per cent novocaine solution from the sixth thoracic to the first lumbar segment rendered the operation entirely painless in each case. Anaesthesia of the abdominal wall peritoneum and right sided intra abdominal organs was complete after 10 minutes. Full technical directions for making the paravertebral injections are given by the author. E. P. ZETLER

Jenck 1 Pathology and Treatment of Acute Necrosis of the Pancreas (*Zur Pathologie und Therapie der akuten Pankreasnekrose*). *Deutsche Klinik* 94 1917 253
By Surg. Gynec. & Obst.

Jenck gives histories of 13 cases of acute necrosis of the pancreas and in addition to describing the symptomatology which varies greatly in the individual cases discusses the various theories as to its pathogenesis. He concludes that the disease is undoubtedly due to the action of a toxin but does not decide between the view of Polya and Eppinger who hold that besides autolytic processes the addition of intestinal kinase activates the proteolytic ferment in the pancreas and that the activated secretion causes circumscribed necrosis and that of Lattes who contends that the intoxication is the result not the cause of the necrosis. Polya supports his opinion that the harmless trypsinogen is converted in the gland into trypsin by showing that the injection of active trypsin into the duct may cause necrosis of the pancreas and death. The injection of intestinal fluid or macerated intestinal mucous membrane has the same effect. Back flow of intestinal contents into the duct can not take place spontaneously and the real cause of the activation of the secretion is the penetration of microorganisms into the duct death however is not due to the bacteria but to the resultant activation of the secretion which can be demonstrated *in vivo*. Lattes holds that the activation is not caused by mixture with intestinal contents but by autolysis of pancreatic tissue.

Jenck maintains that the areas of fatty necrosis in the omentum and spleen are by no means so important as they have been considered by most authors. They have absolutely no etiological significance but are completely harmless. Their only importance is diagnostic even here they are not pathognomonic their absence does not prove the disease of the pancreas does not exist. In some of his severest cases they were not found. The latest research seems to show that the hemorrhage is the cause not the result of the necrosis the author thinks it probable that it may be either but that it is important to know that hemorrhage may cause fatal necrosis. In only three of his own nine cases was the disease of the pancreas associated with disease of the biliary tract.

Early operation is the best treatment but even with recent progress in surgical technique the prognosis in this disease is very bad chiefly due to the

fact that it is almost impossible to make an early diagnosis. Unfortunately even the Abderhalden reaction does not give uniform results in disease of the pancreas and the greatest desideratum is to find a reliable means of diagnosis. A. Goss

Roblee W W: Splenectomy for Primary Pernicious Anemia. *S. & Gynec. & Obst.* 94 1917 675
By Surg. Gynec. & Obst.

Roblee reports the results during the first two months following the operation.

The first case a male aged 42 had been ill for one year. At the time of operation May 18th the patient had been confined to bed for five weeks. Blood examination showed erythrocytes 1,500,000 hemoglobin 40 per cent color index 1.4 with the characteristic changes in size and shape. Operation was not followed by appreciable shock but the spleen proved to be slightly larger than normal. The changes in the blood were as follows:

May 2 Red cells 1,640,000 hemoglobin 40 per cent

May 26 Red cells 1,400,000 hemoglobin 50 per cent

June 3 Red cells 2,000,000 hemoglobin 80 per cent

June 16 Red cells 4,000,000 hemoglobin 80 per cent

July 10 Red cells 4,500,000 hemoglobin 90 per cent

There was a marked improvement in the patient's general physical condition.

The second case a male aged 57 had the same history and the same condition as Case 1. At operation May 15th the spleen was normal in size. Blood examination showed:

May 1 Red cells 1,250,000 hemoglobin 65 per cent

After operation the following changes were noted:

May 5 Red cells 1,600,000 hemoglobin 65 per cent

May 9 Red cells 1,900,000 hemoglobin 65 per cent

May 27 Red cells 1,500,000 hemoglobin 65 per cent

June 24 Red cells 360,000 hemoglobin 80 per cent

July 6 Red cells 2,880,000 hemoglobin 8 per cent

From a review of the literature and from his experience Roblee concludes as follows:

1. The operation does not present any unusual difficulties even when the patient is very ill.

2. The improvement is immediate and striking.

3. In view of the clinical variations of this disease the surgeon is not warranted in promising a permanent cure.

4. The improvement is so striking that a hope of permanent cure can be indulged in. The operation is worthy the serious consideration of all medical and surgical practitioners.

but is most often multilocular the various cavities being separated by thin bridges of trabeculated bone. There is no sclerosis of the surrounding bone and very little lamellar bone formation from the overlying periosteum, which fact aids in distinguishing it from a tuberculous or chronic osteomyelitic cavity. Usually the diagnosis can be made from these points but occasionally an exploratory operation is necessary.

Pathologically the changes are quite complicated but fairly uniform. The contents are always fluid varying from serous to hæmorrhagic and they sometimes contain cholesterol crystals. Cultures of this fluid have practically always been negative. The cyst wall is variable usually it consists of a smooth narrow lining of fibrous tissue which has a necrotic blood stained inner layer and merges externally into a fibrous marrow which fills the porous spaces of the neighboring bone. The bone itself shows active absorption by osteoclasts. The fibrous marrow contains giant cells osteoid tissue isolated patches of cartilage and hæmorrhages. There is usually at least a thin remnant of the cortex left and a small amount of bone deposit in the fibrous marrow and along the periosteum. The giant cells are undoubtedly osteoclasts but when closely packed in a spindle-celled stroma they give the appearance of a myeloid sarcoma.

The treatment has been variable. In many cases the occurrence of a fracture has set up an osteogenesis which has led to healing not only of the fracture but also of the cyst. Non union of fractures through cysts has been rare. Undoubtedly the best form of treatment is to open and thoroughly curette out the lining membrane after which the cavity is closed with drainage or allowed to fill with an aseptic blood clot. Osteogenesis is thereby set up and in a number of months the cyst cavity is filled in. Occasionally a second curettage is necessary. Rejection either subperiosteally or particularly with the periosteum is an unnecessarily severe procedure.

A few cases of cysts of the clavicle ulna and radius are cited.

A large number of cysts of the femur of the humerus have been recorded but the group is not so clear cut the clinical picture being more complex. There is often large cystic tumor of the bone and sometimes there is an associated affection of other bones. He reports one case of a solitary cyst with thinning of the cortex and thin lining of the femur. Most of the cysts are multilocular and very small constituting only a minor part of the mass of fibrous tissue in which they are embedded. Sometimes the bone is destroyed and replaced and the space filled entirely with fibrous tissue. The upper end of the bone is most often involved but few cases forming a well defined group. The lower end is cited. Some of them are large cysts which resemble the myeloid sarcoma rather closely. Pathologic fracture frequently results. Healing usually promptly but

subsequent bowing of the bone may occur. An apparent subdivision of the translucent area by trabeculae is much more frequent in the femur than in the humerus.

The cysts of the tibia form a well defined group. They occur in young people. Attention has been called to them by injury pain and swelling have been the prominent symptoms. The cysts have been lined with an incomplete fibrous wall with occasional patches of cartilage. Giant and spindle cells have given the appearance of myeloid sarcoma in some cases. Curettage has resulted in cure.

Most of the cysts described as being in the fibula undoubtedly have been myeloid sarcoma. The carpal and tarsal bones are very rarely affected. They are more frequent in the metacarpals metatarsals and phalanges but the commonest cause of cysts in this location is degeneration of enchondromata. In a very few instances the skull pelvis and patella have been involved. No record is made of cysts of the spinal column.

Multiple lesions of the bones are not so uncommon the tibia femur and humerus being most frequently involved. The changes in the individual bones resemble very closely those found in the simple single affections. The author excludes from consideration multiple cysts due to von Recklinghausen's disease Paget's disease osteomalacia and multiple myeloid sarcomata.

A mistake which occurs frequently is the interchangeable use by authors of the terms myeloma and myeloid sarcoma. Myeloma should be restricted to those tumors of the bones which arise from the blood forming or hæmopoietic cells of the marrow as myelocytes plasmocytes lymphocytes etc. whereas myeloid sarcoma designates a tumor arising from the connective tissue element of the medullary cavity of a bone and is practically devoid of blood forming elements. D. B. PRINSTER.

Colvin A. R. Diagnosis of Joint Diseases. N. Y. J. 94. 7. By S. R. C. J. N. & O. S. T.

The author emphasizes the necessity of careful study and interpretation of joint movements. He believes that the same systematic clinical examination that is employed in visceral disease is essential in the diagnosis of joint diseases. To this end the symptomatology and pathology of diseases of organs and tissues remote from the joints must be taken into consideration. In order to comprehend the importance and significance of referred and radiating pain a practical working knowledge of the anatomy and physiology of the central and peripheral nervous systems is necessary. R. O. RITTER.

Duffy R. Surgical and Conservative Treatment of Joint Tuberculosis. J. F. M. 1914. 94. 129. By S. R. Gynec. & Obst.

Duffy discusses the operative and non-operative methods in the treatment of joint tuberculosis.

Relative to the use of tuberculin there is a great diversity of opinion but it is generally agreed that

its use in small doses—1 to 1000 mg.—in selected cases produces no ill effects

Röntgenotherapy requires weeks and months of treatment and is therefore slow in producing results. Duffy mentions the results of Bernhard and Rollier whose work in the Alps has convinced the profession of the great usefulness of heliotherapy in joint tuberculosis. The only drawback to the treatment is its great cost.

In the discussion of passive hyperæmia the results of Bier are cited. After long experience the best results were obtained by producing stasis one hour twice daily for a period of months.

Relative to the injection of joints he mentions the substances used viz iodoform in oil or glycerine phenol iodine and formaldehyde.

The operative treatment is generally used on adults the object being to remove necrotic bone and bring about ankylosis.

Abscesses are preferably treated by aspiration.

In adults the wrist hip and spine should be treated conservatively but the elbow ankle and shoulder should be resected. JOHN H. SHAW

Jones S F: Chronic Polyarthritides in Children
Cole Med 4 4 21 41 By Surg. Gynec. & Obst.

Still described a form of chronic joint disease occurring in children in which there was a progressive enlargement of the joint and an accompanying enlargement of greater or moderate degree of the spleen and lymphatic glands. The onset is usually insidious occurring before the period of second dentition and commonly manifesting itself before the fifth year of life. Rarely the onset may be acute with high fever and rigor. The enlargement of the joints is smooth and fusiform quite characteristic. There seems to be no bony or cartilaginous enlargement and no crepitus. Pain if present is only on motion. There is marked limitation of motion with notable deformity. Joint involvement is progressive the wrist knees and cervical spine being earliest affected. Suppuration or ankylosis does not occur.

The cervical and inguinal glands are enlarged but are not tender and do not suppurate. Enlargement of the liver occurs in some cases and anemia is often present. Endocarditis is sometimes present. The temperature curve seems to be of two varieties. One shows periods of pyrexia generally lasting only a few days followed by a longer interval of apyrexia. The other type shows more or less continuous slight pyrexia.

Still's disease is progressive in type but there may be periods of temporary improvement. Hopeless crippledom may result.

The pathological changes show periarticular thickening with practically no joint involvement. The changes in the glands are not characteristic. Some amyloid degeneration may be present.

Jones reports two typical cases of Still's disease occurring in his practice. Both cases showed marked improvement. In the second case the dried

extract of thymus gland was given in doses of five grains three times a day.

The conclusions are as follows:

1 Still's disease is probably not of tuberculous origin and we are not warranted at the present time in assuming that the multiple joint involvement is due to the presence of tuberculous toxæmia, although such careful observers as Edsall, Lavenson, and Mouriquand are inclined to this theory. These cases of polyarthritides in children are very probably of an infectious character closely resembling rheumatoid arthritis but differing in their morbid and clinical manifestations. The bacteriological findings are still obscure and need more careful and thorough laboratory research.

2 Glandular involvement is characteristic of the disease but splenic and liver enlargements may or may not be present.

3 The prognosis is more favorable than at first regarded by Still. Many cases as the two above reported have shown decided improvement and in rare instances complete recovery has taken place.

4 Complete rest and immobilization of the affected joint is imperative during the acute and painful stage of the disease. Proper hygienic surroundings, fresh air, good and nutritious food and the use of tonics such as iron, arsenic, cod liver oil, maltine, etc. are essential.

5 The extract of thymus gland in suitable cases and in proper dosage seems to have a decided and beneficial effect.

6 The resulting contractions and deformities require surgical interference and they should be corrected and overcome during the quiescent stage. ARTHUR O'REILLY

Ridlon J: Hip Disease. *P. M. J.* 19 4 21 207
By Surg. Gynec. & Obst.

The author emphasizes the importance of accurate study in the diagnosis of hip disease. He mentions the conditions which most frequently lead to error viz coxa vara, osteoarthritis, hysterical hip, acute epiphysitis in infancy, tabetic hip, tuberculous sacroiliac disease, Pott's disease, congenital dislocation, acute coccidiosis and other acute infections of the joint. In the treatment of hip disease Ridlon states that there is a time to remain in bed, a time to be up and around, a time to remove the weight of the patient from the diseased hip, a time for the limb to bear weight, a time to immobilize the joint, a time to permit a certain range of motion, a time to make traction on the limb and a time when traction does harm. By far the most important principle of treatment is immobilization. The means commonly used to immobilize the hip-joint are briefly described. In the management of tuberculous abscesses Ridlon emphasizes that they should not be incised and further that all operations on tuberculous hips have been conceived in ignorance and born in iniquity.

CHARLES M. JACOBS

Allison N and Brooks B: Ankylosis an Experimental Study S & G 32 6: 61 914 xv
568 By S rg Gynec & Obst

The nature of the process of bony ankylosis is studied in 23 experiments done on the knee joints of dogs. The methods employed were (1) Partial excisions 9 experiments (2) destruction of joint cartilage 3 experiments (3) injury to joint cartilage 2 experiments and (4) direct infections of joints 9 experiments

In the microscopic study of the material obtained from these experiments the process of ankylosis is traced from its earliest to its complete stage. The reaction of the joint structures to injuries and in sections is shown in the sections and the duration of the process is indicated. The conclusions drawn throw some light upon the surgical treatment of ankylosis and incidentally the behavior of the bones after injuries and fractures within the joints

Bowly A A and Rowland S. A Report on Gas Gangrene B I U J 9 4 93
By Surg Gynec & Obst

An interesting description is given of a very rapid gangrene following shattering wounds. The authors have isolated spore bearing anaerobic organisms from the wounds and from the soil in the trenches. It is evidently very closely related to the organism of malignant edema. The disease has no relation to so called hospital gangrene

F C KIDNER

FRACTURES AND DISLOCATIONS

Groover T A: Hints on the Diagnosis of Fractures I I U J 5 9 194 xvii 384
By Surg Gynec & Obst

As Groover is a roentgenologist his contention that the older methods of diagnosis are of the utmost value is very interesting. He considers pain either spontaneous or elicited by pressure the most valuable single symptom and crepitus as possibly the least important while deformity and swelling are valuable aids. He challenges the trite saying that a sprain is worse than a fracture and says that symptoms are more marked if the bone is involved than otherwise. The law of probabilities runs very true in these cases more so than in other forms of surgery that is, in shoulder injuries the surgical neck of the humerus is most frequently involved; the wrist a Colles fracture is commonest in the hip fracture of the neck of the femur in the foot Pott's fracture. He discusses various fractures in the application of these rules and concludes that clinical examination is of greater importance than X-ray plates in diagnosis

C F WELLS

Kauff H J: A New Method of Hastening Repair after Fracture I I U J 9 4 93
By Surg Gynec & Obst

Kauffer has originated a mixture of ground bone dust and petrolum which is injected between and

into fractured ends of bone to stimulate repair. Several injections may be necessary the injections being made as deeply as possible and only between the fragments

The paste must be sterilized for two hours kept in a cool place and when required must be warmed thoroughly and shaken. A 4 to 8 ccm syringe with long needle with a bore about gauge 20 should be used

Examples are cited showing the rapid growth of bone wherever the paste was injected while the controls showed no growth whatever

JOHN H SHAW

Miller S R: Treatment of Fractures of the Wrist I I U J 5 9 1914 x 382
By Surg Gynec & Obst

Miller believes that the X-ray is very frequently necessary to make a diagnosis of these fractures. He discusses Colles' fracture laying particular stress on the value of the periosteum as a retention splint after reduction and the frequency of fracture of the ulna styloid which demands treatment. He considers plaster of Paris the best splint for these cases in the form of anterior and posterior splints moulded to form and retained in position by a starch bandage with this form of splint the padding may be changed or its form altered to secure cleanliness or to counteract any tendency to malposition. In the early stage he uses massage and hot fomentations with active motions in about two weeks

C F WELLS

McCurdy S L: The Treatment of Deformity Following Colles Fracture. I I U J 5 9 914 xxvii 377
By S rg Gynec & Ob t

In a well illustrated article McCurdy outlines the technique for reduction of this fracture which he tersely characterizes as the most frequent of all fractures and the easiest treated and if not properly replaced at the time of the accident results in more bad deformities than all other fractures combined. Failure to secure good reduction results in (1) tension on joint ligaments, which is necessarily painful (2) The tendons must work around a double curve, one point of which is at the point of fracture and consequently poor function results (3) Interference with venous return causing swelling and stiffness of the hand (4) Supination and forward displacement of the hand

In reduction and retention of the fragments care must be taken to avoid pressure on the arteries and nerves. If after two weeks supination is interfered with McCurdy operates and removes the impinging portions of bone

C F WELLS

Palmer E P: Bone Transplantation as a Treatment of Fracture and Fracture-Dislocation of the Spine S & G 32 6: 61 914 xi 661
By Surg Gynec & Ob t

The author believes that bone transplantation which has won a place in the treatment of obstinate

by chiseling or sawing which otherwise might form free bodies in the joint but the chief effect of the flap of fascia is on the effusion of blood that takes place after the operation

A short description is given of the variations in technique for the different joints In the knee the patella either at the time of the operation or preceding it has a pad of fat placed underneath it In the reconstruction of the extensor apparatus a peroneus tendon covered with fascia is used Kirschner's incision has been rejected in favor of two lateral incisions To avoid lateral motion a broad groove is chiseled for the patella and extensor tendon on the anterior surface of the condyles In the hip joint a Volkmann's chisel resection is performed followed by implantation of fat and fascia or an osteotomy is done and a saddle-joint created which is capable of movement along two axes In the elbow joint the triceps and ulna are covered with fascia In the finger joints and the wrist joint Payr has recently been using fat

The later fate of the new joints is studied by means of careful after-examinations Neither arthritis deformans nor severe secondary deformities develop The thick fibrous covering that develops over the joint ends resembles the covering of a tendon sheath The new formed joint cavity is to be regarded as a mucous bursa which develops in spite of extensive extirpation of the capsule The bodies of the joints show no changes in size and form though they are not as Roux maintains they should be covered with cartilage to keep them from wearing out Their architectural structure is in perfect functional accord with the newly created mechanical conditions Deep sensation and reflexes are perfectly maintained

The indications are limited by the fact that Payr has had unfortunate results in mobilization after resection for tuberculosis He describes 4 cases one of ankylosis of the hip 2 of arthroplasty of the knee and one of new formation of an interphalangeal joint In all the joints the motion was satisfactory In the first two years he has performed 22 operations for mobilization of joints including various kinds of joints and has had 5 failures The result in the old case knee case—4 years—is excellent

CORRELL of Kiel has had satisfactory results in 4 cases of ankylosis of the elbow joint by trypsinization of the ends of the bone with the fascia

Hamel and Magnus Experiments in Surgery of the Knee-Joint (Arthromyotomie) (Zentralbl. f. Chir. 1904, 4, 411)

The authors undertook a great number of comparative experiments to determine under what circumstances mobilization of an ankylosed joint takes place They removed the articular cartilages totally from the knee joints of rabbits and in some cases they interposed muscle or fascia between the injured bones In others there was no interposition

of tissue The surprising thing about the results of these experiments was that a movable joint resulted whether tissue was interposed or not Anatomical studies are reported in detail which show that finally the ends of both bones were covered with fibrous connective tissue Where muscle was interposed this consisted of muscle which had undergone fibrous degeneration and if no tissue had been interposed it consisted of granulation tissue formed on both ends of the bone The essential point in the formation of a new joint is not the interposition of tissue but the maintenance of function which is dependent on the presence of the extensor muscle apparatus and the lateral ligaments KATZ STERN

Tiegel M Treatment of Phlegmons of the Hand (Über Behandlung von Handphlegmonen) B. M. Ch. 1904, 4, 435

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Tiegel treats phlegmons of the hand as follows After sufficient incision of the wound edges he holds the wound open for 24 hours by means of a spring which he constructed He does not use any other drainage or any tampons The pus is carefully washed away with salt solution or a solution of 1:1000 bichloride of mercury and the surface of the wound is then covered with loose gauze He advises against the ordinary moist dressing and lays emphasis on placing the inflamed part at rest sufficiently if not absolutely He advises that the splint be not placed on the palmar side but on the dorsal side when the incision is on the palmar side and that only the inflamed finger be placed at rest the others left free In order to apply this correctly he has had a simple wooden splint made into which metal mould for each finger can be screwed

He does not advise the usual suspension or elevation of the hand because he has found that it not only does no good but that it rather favors the extension of the inflammation He prefers the low position taking care only that the wound does not lie against anything as that would interfere with the discharge of the pus

Results from this method of treatment were excellent an especially good feature was the absence of necrosis of the tendons He attributes the slight degree of injury to the tendons in spite of the free incision to the fact that no tampons were used the pus was discharged very freely from the wide open wounds and the tendons were very quickly covered with fresh granulation tissue Wound healing was extraordinarily rapid and restoration of function surprisingly good M. von Bär

Fischer Aladar and Baron A Operative Treatment of Spastic Flat Foot (Beitrag zur Behandlung des spastischen Plattfußes) Z. f. Chir. 1904, 4, 755

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

In spastic flat foot that does not yield to conservative treatment the following operation which has been tested clinically is recommended Through

ala ralis in sona e r of tend n 6 to 9 cm l gis
 excised from the peroneus longi and a short r
 spat f m the peron us bre In non spastic
 flat f x t th exchi n is m le only from the peroneus
 brex Th wound is sutured The scaph l i s i f i
 bre by a small flap line an l bored through in the
 d rosoventral direction The en l of the i ce of t
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 hole an l unted with the o ren l A few t gth
 enings tures are p sed thr ugh the p ce of t
 the peroneus an l ligam t The s f e of t
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 a small long to linal inci art m lte verse
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 cept into the upper w n l d f t n ttooth tta
 underg d tions n with a l latur armed tto gh
 the hol in the tibia Furth r tatio suture are
 m le through th peroneo m r l the l f the
 t n lon

It is necessary f r i t h s c s f i t t r e t m e n t o f
flat foot that the foot be brought t w a y f r o m t h e
mark i s u p d a t i n a l l t h e l o c a l c h a n g e s
have tak n place in t h b o n f i t h f i t h e f o o t
Sometimes a combination f i t m t h o d w i t h o t h e r
operation s i n i t a l w a y

ORTHOPEDICS IN GENERAL

Pt. A - Epidemic Polio

I'm interested in the type of the line which is observed during a seizure.

He says that number 1 hibernates from 7 and one-half to ten; 2 & 3 go over till 12 or 1; 4 breathes with high temperature & red legs; 5 goes in the breath breathe constantly and pa in the back and limbs; 6 all these are hibernating appeared early paralyzed or red from 7 to seven days.

In the areas in which the virus is entirely absent but the other symptoms present after seven to ten days recovery is usually complete but acute sciatic disease.

Oth 2 cases which h l the ly sympt re
covered with the ft r res lt

Pim states that the incubation period may be eight days after case has been notified begin-
ning of the epidemic developed the first case after
eight days.

The cases were 11 by 14 ft and only two homes was there more than one child in the

The suggestion that flies are a vector for the disease is not borne out: these flies and children living in the poorest and most insanitary district were not affected.

Packard C B : The Treatment of Wreck and Flat
Leak Col Jfrd 914 406

The literature on the subject of work and flat feet shows the interest taken in the subject. The

A report of one of the largest clinics in the country shows that 30 per cent of new cases were of this nature while in 1990 there were less than 3 per cent in the same clinic. The condition is the cause of marked disability not only in the feet but also in other parts of the body. Evidences of weak and feet such as joint pain and disability are usually present even before flattening appears. In this stage motions are restricted especially a flexion of the forefoot. The deformity is characterized by a leprosy of the arch and by lateral displacement caused by pressure and custom of the foot.

The body weight normally passes through the center of the knee and ankle joints as it over the dorsum of the foot to the second joint in the foot. The weight passes to the inner side of the foot and causes strain with a tragal weight on joint. This abnormal alignment of the foot is increased by faulty foot structure. Occupation increase in weight, genu valgum and heel tal states. High heels tend to throw the weight on the front of the feet and tend to interfere with the function of the anterior arch. Hall valgus by preventing a flexion of the great toe tends to weaken the support of the arch. The feet attempt to stand and walk with affected feet through the mouth of firm dependence upon the muscular system. In the more severe cases muscle power is present and later a slow and long change may result. I am may be alert but as a result present with the feet are in use. It may be in the heel or in the knee, hip, or lumbar region.

The trapezius will respond upon the stage of degree of disability. The aim is to make the passive motion possible without pain and to strengthen the muscles thus restoring function and vertebrae to form and obstruction. Arch support will not fill these requirements as it is often injurious; they tend to make the

In the case the toes may be moved the heel is elevated by raising, thus throwing the body weight to the outsides. In the more severe types where pain has developed the foot must be put at rest. This may be done by adhesive strapping of the lesser sesamoid bones. In the most severe cases the foot must be corrected until a satisfactory position is attained. A plaster cast which should be worn until the pain and tenderness have disappeared. In cases which result in treatment and in relapsing cases an arthrodesis of the tarsal-metatarsal joint may be performed. In those cases in which the tendons to the hallux are short it may be advisable to lengthen it.

The rect shoe for a norm 1 foot should correspond to the shape of the foot. The inner side should be straight and there should be plenty of room on this side. The thick part of the front of the foot is on the inner side. The width of the rear part should correspond to the weight bearing position of the foot at that part. There

should be no dorsal flexion in the sole of the front of the shoe. This portion should also be flat from side to side. The heel should be low and broad.

It is often necessary to make the change to improved footwear gradually as a sudden change often causes considerable discomfort. Each case must be studied carefully and treated accordingly.

The general condition of the patient must be considered and any other pathological changes should be treated.

Artificial supports should be dispensed with as soon as possible or at least reduced to a minimum degree in order to reestablish the normal functions of the foot.

ARCHER O REILLY

SURGERY OF THE SPINAL COLUMN AND CORD

Griffith J D Report of Three Cases of Partial Luxation of the Atlas on the Axis. *Am J Orth Surg* 1914 332 By Surg Gynec & Obst

The author reports three interesting cases of unilateral dislocation of the atlas on the axis with out fracture of the odontoid process or any portion of either bone. In each instance recovery followed reduction.

The patients complained of pain when attempting to move the head radiating over the occiput and down the neck. The head and chin deviated to one side. The neck muscles were rigid and there was a prominence back of the angle of the jaw on the side affected.

An X ray picture taken anteroposterior with the mouth open is a very important procedure in corroborating the diagnosis and in determining any fracture of the odontoid process.

These luxations are usually unilateral and consist of a rotary displacement in the upper vertebrae on the side of the lesion slipping forward and catching either on the apex of the articular process or slipping over into the intervertebral notch. Compression of the cord is unusual. Reduction is possible by proper manipulation even after the lapse of a long interval.

ROBERT B COFIELD

Scott O F Hyperflexion of the Spine with Multiple Spinous Process Fractures Without Accompanying Lesions. *Chic M Rev Med* 1914 9 4 222 600 By Surg Gynec & Obst

The author summarizes his statistical report of these fractures, showing that spinal fractures occur in about one per cent of all general fracture cases and that but 4 of each 1,000 spinal fractures are spinous process fractures. Two in every 1,000 spinal fractures occur in the dorsal region and one half of one per cent occur in the lumbar region.

The etiology is a deduction from medical literature and personal observation and comprises

(a) Direct causes with trauma applied directly at any angle without hyperflexion. (b) Voluntary muscular action with violent hyperflexion.

(c) Indirect causes with trauma applied laterally without hyperflexion there being fixation of one

extremity and mobility of the other and trauma applied at any angle but fracture occurring from an accompanying hyperflexion. A hyperflexion beyond the physiological limit is the greatest etiological factor if direct trauma is eliminated.

The thoracicocervical and the thoracolumbar regions are the most common regions involved in fracture of the spine as here we have the unions of two flexible and rigid areas. A case is cited having a fracture of the fourth fifth sixth and seventh dorsal spines caused by direct trauma under forcible hyperflexion there being no accompanying lesions other than the fracture of the spinous processes.

H W MALZBY

Jones S F The Pathological Report of a Case of Vertebral Osteoarthropathy—Charcot's Disease of the Spine. *Am J Orth Surg* 1914 303 By Surg Gynec & Obst

A very interesting and instructive report of this rather rare condition is given together with a photomicrograph and an X ray plate. The subject a male aged 50 had been under observation for several years. He presented kyphosis of the second third and fourth lumbar vertebrae without pain on motion of the spine muscular spasm or spastic contraction. There was some diminution of the kyphosis upon hyperextension. The Wassermann test was positive and the neurological examination established a diagnosis of locomotor ataxia. There was compression of the second third and fourth vertebrae the convexity of the scoliosis being to the left with some resulting absorption of the bodies and a hypertrophic bony development. He gradually became helpless and was finally confined to bed for two years and ten months a decubitus developed over the sacrum. The case was complicated by an irreducible right inguinal hernia. A necropsy report by Whittman together with photomicrographs showed hypertrophic bony changes in the lumbar vertebrae with thickening of the spinous processes and ankylosis of the first second and third lumbar segments. Microscopically a tumor of the osseous tissue showed small spindle-celled fibrosarcoma.

H W MEYER

comes involved reactions appear in the abdominal viscera and go on until all the organs of the body show reactions

In epilepsy the reactions are consistently pathologic more than 90 per cent give reactions to cerebral cortex and only a very small per cent to other organs of the body

Neasy (18) also notices without much comment the unfavorable clinical work of Lange, Michaelis and Otto

A Goss

Parsamow O S Experimental Study of the Origin and Specificity of Blood Ferments in the Use of Abderhalden's Dialysis (1) *ge experimentelle Untersuchung über die Frage der Entstehung und Spezifität der Blutfermente bei Anwendung des Abderhalden'schen Dialysenverfahrens* *Biolog. Anz.* 1914 1: 269 By S. Gynec. & Obst.

Parsamow presents some experimental investigations upon the specificity of the defensive ferments as shown by the Abderhalden reaction. He has used rabbits alone in his investigations; the results of which were first published in an inaccessible Russian thesis. His methods were rather massive in undertaking to fill the system with the albumin molecules of different organs.

With the utmost antiseptic precautions he ligated off one or more of the organs, such as the kidney in one case, the spleen in another, the testicle in another, and the liver in another, and proved by delay that the animals were viable. He also attempted to fill the circulation with foreign albumins by preparing an emulsion, blood free of different parts of the body of the rabbit, and injecting subcutaneously intraperitoneally or intrapleurally from a few drops to a cubic centimeter or more of these emulsions. He expected in both cases that a defensive ferment would be aroused against the organ cut off from the circulation or the organ used in the preparation of the emulsion. The results are tabulated in a series of three tables.

For example, he ligated off completely the testicle of a rabbit. At the end of the first day there was no ferment found in the rabbit's blood. At the end of the seventh day there was a doubtful reaction to the testicle at the end of the fifteenth day two ferments were found in the blood serum: one catalyzed the testicle and the other the fundus of the muscle of rabbit. At the end of the twenty-fourth day there were three ferments: a very positive ferment against the rabbit's testicle and ferment against rabbit muscle and also one against liver albumin. In the following 7 experiments of a somewhat similar nature, the same results were found after the ligation of the adrenal, the liver, the kidney, the thyroid, the ovary, the salivary glands, the striped muscle, and the spleen, but in every case the ferment against the organ ligated off was the most pronounced and remained longest in the blood, lasting in most cases for two or three weeks.

In the case where an emulsion of an organ was used the specificity was the most pronounced

isolated and protracted. When testicle, ovary, liver and spleen emulsions were used, the ferment against the corresponding albumin was found at the end of the second hour. At the end of the second day the reaction was most pronounced and was represented by double plus. By the end of the fifth or sixth day the ferment had disappeared. Parsamow was able, however, to bring about reactions by the injection of trypsinogen and by the use of two grams of trypsinogen by mouth, which were similar to those produced by ferments against various albumins. For example, two hours after a rabbit had been fed two grams of trypsinogen, the serum of that rabbit's blood placed in a dialyzer on muscle, kidney, spleen, liver, testicle, adrenal and ovarian fundaments gave a very positive ninhydrin reaction to muscle, spleen, liver and adrenal; these reactions faded away somewhat at the end of the first day and completely by the end of the third day. Even with smaller doses of trypsinogen reactions were brought about which would be confusing.

Parsamow does not attempt to explain these manifestations but does conclude that the researches to be made depending upon the specificity of the ferments must be guarded by a due consideration of the possibility of bringing about similar and confusing reactions by the use of substances of this kind.

A Goss

BLOOD AND LYMPH VESSELS

Buerger L Is Thromboangiitis Obliterans an Infectious Disease? *S. G. Gynec. & Obst.* 1914 58 By S. G. Gynec. & Obst.

Buerger previously demonstrated that so-called preleukemic gangrene or endarteritis obliterans is really a thrombotic and inflammatory process involving the arteries and veins and therefore properly designated as thromboangiitis obliterans. In a study of 19 amputated limbs the old or healed stage of the disease—that in which the vessel lumen is filled with vascularized canalized connective tissue—was most commonly found. In two instances, however, the early or acute stage of the disease was represented. In this there is an inflammatory infiltration of the wall of the vessel with occlusion by red clot and there are certain characteristic foci containing giant cells.

More recent studies bringing the total number of amputated lower extremities to 40 together with 2 forearms tend to throw light on the nature of the etiologic factor. The association of migrating phlebitis with subcutaneous veins of the upper and lower extremities—report of Buerger in 1911.

It was noted in 5 cases—I brought up the question of whether these veins were affected by the same disease. And in truth it was found that the acute lesion in the peripheral and veins was identical with the lesion characteristic of the migratory phlebitis. The study of the various stages of the disease was thus made easy in that the subcutaneous veins could be used for that purpose.

and extirpated with impunity under local anæsthesia. Twenty five different excised specimens from 18 cases were collected. In these it was shown that certain purulent foci are the precursors of the giant-cell foci and represent the earliest stage in the acute lesion, that these foci are recognizable in the obliterating clot that they lead to the formation of the typical solitary giant-cell foci characteristic of this disease alone and suggest that the process is brought about by some infectious organism although the ordinary methods of research have failed to disclose any such organism. Future studies must be directed to the discovery of the microbial agent in the thrombosed superficial veins.

Peet M: Indications for and Value in the Technique of Eck Fistula. J. S. G. Phil. 1914 ix 60. By S. R. C. et al. U. S.

This operation has been twice performed on man once by Vidal in France and once by Rusenstein in Leipzig. Experimental work on animals has proved its feasibility and that if done early it is free from danger.

The operation is indicated in cirrhosis of the liver with ascites particularly in alcoholic cirrhosis where other organs are not seriously affected and also in those cases where compensation of circulation exists.

In cirrhosis due to stasis in the hepatic vein so-called nutmeg liver even when associated with ascites Eck's fistula could not be expected to give relief as the trouble is not in the portal vein but is due to the increased pressure in the vena cava itself. Neither would the fistula be of benefit in ascites due to cardiac disease nor in nephritis. In Banti's disease when accompanied with cirrhosis relief should be obtained by the operation also in cases of thrombophlebitis of the portal vein.

He adopted a modification of the technique of Carrel and Guthrie in that he used a three-bladed forceps resembling those used in doing gastroenterostomy except that they were very much smaller. He also advises the use of a curved needle.

If on account of adhesions access to these blood vessels is not feasible or if there is disease of the portal vein it will be possible to make the anastomosis between a mesenteric vessel and the common iliac vein. D. I. D. and

ELECTROLOGY

Cole L. G. Preliminary Report on the Therapeutic Possibilities of the Coolidge Tube. Med. Rec. N. Y. 94. By Surg. Gynec. & Obst.

One of the greatest handicaps in roentgen therapy has been the inability to secure rays of great penetrability in sufficient quantity to have an appreciable effect upon deep-seated structures. The reason for this is the instability of the vacuum in the ordinary X-ray tube. The Coolidge tube produces rays of extreme penetration continuously over long

periods in large quantities and without fluctuation. An erythema of the skin can be produced with this tube in 30 seconds.

The author conducted comparative experiments with ordinary X-ray tubes and with a Coolidge tube in an effort to produce an erythema dose 3 inches below the surface under radiation. A piece of meat 6 inches thick was used for the experiments. The author judges that the conditions of the experiment were comparable to those of the roentgen treatment of a cancer of the pylorus. With an ordinary tube it was necessary to use 7 tubes one after the other, all operated at their full capacity, the entire length of exposure being 115 minutes to produce an erythema dose 3 inches below the surface. No filter was used and the surface received 16 times an erythema dose. Under actual working conditions 16 portals of entry would have been necessary or the patient would have been seriously burned or if an erythema dose only were given on the skin the part under treatment would receive only one sixteenth of a dose. A dose of this size might be not only useless but actually stimulating.

With a Coolidge tube operating under similar conditions with the exception of a filter of aluminum 3 mm thick interposed an erythema dose was produced 3 inches below the surface in 6 minutes, 10 millimeters going through the tube. The surface received 6 times an erythema dose; therefore 6 portals of entry were necessary in this experiment. With an aluminum filter 10 mm thick 14 minutes were required for a full dose 3 inches below the surface; the other conditions being the same. In all the experiments the target of the tube was 6 inches from the surface under radiation.

Two significant facts are emphasized by these experiments: (1) Necessity of filtration. With a 3 mm aluminum filter one sixth of a dose can be given 3 inches below the surface without a filter only one sixteenth of a dose. (2) Necessity of numerous portals of entry as the dose given can be directly multiplied by the number of portals available. G. W. Gutz

Morton W. J. Embedded Radium Tubes in the Treatment of Cancer. Med. Rec. 94 ix 93. By Surg. Gynec. & Obst.

Morton reports a case in a young woman of stenosarcoma of the humerus in which radium was embedded and recovery followed. Eight years have now passed without recurrence. The author feels that this form of practice will come more and more into vogue. Carcinoma of the breast was treated with the same brilliant result. W. S. Newcourt

Ranzl Schüller and Sparrmann Experience in Radium Treatment of Malignant Tumors (Lef. hrung über Radiumbehandlung maligner Tumoren). Strahl. Ther. 94 v 97. By Surg. Gynec. & Obst.

These authors had all together 225 mg radium and 50 mg mesothorium. They filtered at first

with lead later with metals that produced only slight secondary rays (1.5 to 2 mm thick). To exclude secondary rays non-metallic covers were placed over these. Different dosages were used in different cases but sometimes very large individual doses as well as large total doses were used. Among 29 cases of tumors 6 died. In three cases—recurrent carcinoma of the tongue basal cell cancer of the ala of the nose and a tongue cancer as large as a hazelnut—the tumors disappeared & were not affected they did not even grow worse. In 11 cases the tumor grew smaller and among these were sarcomata and carcinomata for example cancer of the oesophagus producing stricture.

In these experiments it could not be seen that there was any truly elective effect on tumor tissue the normal surrounding tissue was also injured giving rise to the possibility of perforation and hemorrhage they encountered the latter in five cases. The analgesic effect of the rays is by no means constant. On the whole the authors believe that radium should be used only after operation and as a palliative measure in inoperable tumors the malignancy of such tumors may be decreased by its use but all operable tumors should be operated upon unconditionally. A Goss

MILITARY SURGERY

Cumston C G. Gunshot and Bayonet Wounds of the Stomach. *Med P & C* 94 cxlix 472. By Srg. Gynec & Obst.

Bayonet wounds are very similar to stab wounds and the treatment suggested by the author is mainly conservative.

Gunshot wounds of the stomach vary in degree depending upon the type of projectile and the distance from which it was fired. Fired from a distance exceeding 300 meters simple perforations which are small and circular result. The borders of the wound may close together producing an almost complete occlusion. When the firing distance is less than 300 meters the result varies according to the state of plenitude of the stomach. When the organ is empty the wounds present the same characteristics as those just enumerated. But when the stomach is full genuine bursting of the viscous results.

The treatment of gunshot wounds of the stomach according to the author should be mainly conservative. In the South African war and in the Russo-Japanese war, statistics seem to indicate that of those operated upon a larger percentage died than of those treated conservatively. Conservative treatment consists in absolute rest under morphine and opium and nothing by mouth for three to four days or even longer. The only primary indication for operating is the presence of intra-abdominal hemorrhage. Peritonitis is the only late indication for operating and in these cases the operative act should be reduced to the minimum.

J H S 1175

Mummary P J. Injuries to the Bowel from Shell and Bullet Wounds. *B I M J* 914 1194. By Surg. Gynec & Obst.

In his position as surgeon to King Edward VII's hospital for officers, the author has in the last three months seen several cases of injuries to the bowels from shell and bullet wounds. Injuries to the rectum and pelvic colon in these cases are serious and attended by a higher mortality than similar injuries to other parts of the alimentary canal. There can be no doubt that a high velocity Mauser bullet may pass through the abdomen or across the pelvis penetrating the large and small bowel without causing fatal or even very serious results always provided that certain conditions be present. Of these conditions the chief are (1) the bullet must be travelling at a relatively high velocity (2) the intestines must be more or less empty of fluid contents (3) and the proper first aid treatment must be administered. The bowels should be given a complete rest for forty-eight hours after the injury by withholding all food giving morphine in full doses and providing as much rest as possible.

Mummary ascribes the good results obtained in the treatment of the wounded in the present war to the efficient first aid service. Wounds involving the large bowel are generally complicated by other injuries such as fracture of the pelvis injury to the bladder or damage to the large nerve trunks more commonly as concussions than as cuts. The most difficult cases are those associated with fracture of the pelvis and a septic wound. Healing in such cases is slow as portions of bone must repair before healing can take place. The most serious cases are those in which a shell wound is complicated by a fecal fistula and fracture of the pelvis.

In these severe cases of wounds complicated by a fecal fistula Mummary believes the best thing to do is to perform a temporary transverse colotomy at the same time opening up the wound thoroughly and providing free drainage. After the wound in the bowel has healed the colotomy can be corrected by a secondary operation. The best way to perform a colotomy in these cases is by means of a glass rod placed under the bowel. No attempt at performing colotomy is necessary in the case of a small wound not complicated by a fractured bone even though fecal leakage be present provided the patient has not developed a serious degree of sepsis. If such an attempt has been made the rectum should be drained by means of a tube introduced through the anus. Wounds involving the bowels should not be treated by immediate operation even if proper surgical facilities are available. Complete rest absence of food and the administration of morphine constitute the proper treatment. Surgical treatment should be reserved for treatment of secondary complications.

Three cases of bowel injury due to bullet or shell injuries are reported from the author's experience.

J C Ross 1175

Laurent Fractures of the Long Bones and Joint Injuries in the Bkhan War (Le fr t e des l m mires t les bless re t ul fr ins l gur re b lk i e) J d r h t a o
By e re t ync & Obst

In 100 cases there are 40 injuries of the soft parts and 20 fracture. The flexor profundus is the most common, with fragmentation or fracture possibly by direct pressure or explosion from lateral pressure. The degree of destruction varies with the distance from which the bullet is fired. It is said that comminution is possible at a distance of greater than 2000 meters. The destruction is greater if the projectile is oblique than if it is transverse. The complication of fracture is hemorrhagic shock, infiltration of phlegmon, osteomyelitis, gangrene, septicæmia, pyæmia, arthritis, tetanus, amyloid degeneration, tuberculosis, exuberant alveolar ankylosis and pseudarthrosis.

Fracture from shrapnel sh w th grea t
tend cy to infectio beca e the wounds from
this form of projectile are larg r the fragments are
more apt to lodg in the wound the rit es are
larger and there is more harm ithagc flu i n
which is an imy rtant factor in suppuratio n
The consol datio n of simple transvrs or oblique
fractures occurs in the same time as in ti l practice
som times even sooner beca use practically all of the
sold r are young and robust and bon repair is
very vigor

Treatment of fractures is conservative in the majority of cases and consists essentially in immobilizing the limb and preventing or limiting infection. Suture is very rarely indicated in military surgery; the suture may become infected by passing through a latent focus of infection and become so serious as to call for amputation.

Simple fractures are reduced preferably under anæsthesia in fractures of the femur and fixed with splint and plaster. Extension should be applied in fractures of the femur humerus and forearm. The plaster cast is valuable in trauma but it may take too much time to apply it at the front and it may conclude to plaster with the fragment if the limb is swollen when it is applied and later resumes its normal size. It requires great care in wetting and is difficult to take off. Some surgeons apply a plaster cast at first for the reduction of swelling and apply plaster fixation after and retraction of fragments. It is really to be avoided. The author thinks the method of Blackenbruch screws would be applicable in military surgery. In infection there should be incision of the exit wound possibly infection with hydropyrene or infection of iodine and alcohol. Simple incision may be sufficient without chemical fragments. Drainage should be established but tamponading has been the source of many infections from retention of exudate.

It should be borne in mind that fractures that may be a result of fatigue that appears with rest and reduction. In infiltration or fever wet

compression should first be tried and the greater effort made to select the best time for amputation. The type of primary resection of the limb is not indicated in military surgery. If a vessel is removed fragments would leave too large an infected cavity especially in the thigh. Amputation would better be performed at once. If necessary arteries may be ligated and nerves sutured. Late resection is made in correcting various calls such as removing sequestra. Amputation is practiced in about two per cent of the cases and is not used in extreme trauma where a desire to save soft parts with section of the principal artery and a vessel when collateral circulation is not established very extensive amputation progress phlegmon and severe osteomyelitis. Fractures of the femur should be carefully watched so that amputation will not be delayed too long. Secondary amputation especially is performed under the above mentioned conditions. Primary amputation is practiced after the appearance of shock in cases of extreme destruction and very severe fracture.

There may be non-penetrating penitential injuries or the bullet may lodge in the epiphyses more rarely in the joint. A prolonged stay must be regarded with suspicion even if a moderate increase in degree for it may indicate a serious change in the joint. Fracture of the epiphysis of the femur or humerus may have a sure effect on the joint causing a bursitis. Treatment is conservative in the majority of cases consisting of drawing the fracture of iodine immersion with tension and in some cases a trituration. In abscess the treatment consists in incision and removal of free fragments sequestra and foreign bodies. Ordinarily fragments should not be removed for some time. Primary extirpation is generally contraindicated it is indicated only in some cases of comminution by shrapnel or shells. Primary amputation also is indicated only in cases of extreme destruction of soft parts or bones especially in tetra myelitis or erysipelas when there is no hope of ultimate circulation and particularly in injuries from bursting shells. Secondary amputation is indicated in septic osteomyelitis, arthritis gangrenosa, intense atrophy, amputation should be delayed until the maximal period of the infection the patient is moribund.

Trauma of the head of the humerus may be
 simply perforating or total comminuted.
 Treatment consists of immobilization. Resection
 or amputation may be performed if indicated.

1/3 of the shaft of the humerus contains 1/5 of the fractures of long bones. Complication and treatment are the same as for other long bones in general.

In fractures of the elbow a simple perforation is rare. A transverse one is more injurious than an anteroposterior one. Dislocation of a fragment into the axilla is frequent. Treatment frequently consists in arthralgia of the joint which necessitates long and careful physical treatment or type I.

resection Secondary resection may be indicated in stubborn osteo-arthritis or in ankylosis Total resection is apt to give a better result than partial resection

Besides simple injuries of the forearm there may be in rare cases section of the tendon suture is indicated frequent complications are lymphangitis and thrombophlebitis in which free incision and elevation of the arm is indicated followed by mobilization of the fingers as soon as the infection has abated Simultaneous injury of the radial ulnar and interosseous arteries may be followed by gangrene

In injuries of the wrist joint there may be simple perforation of the capsule cylindrical perforation of the epiphyses of the radius and ulna with or without fissures or fracture of one of the styloid processes The base of the metacarpals may be injured and these wounds are large and irregular with tearing of the tendons Conservative treatment is especially indicated here caution should be exercised even in the removal of fragments The hand should be placed in slight dorsal flexion the most favorable position for ankylosis Amputation is very rare

Fracture of the coxofemoral joint is very grave and often fatal if the acetabulum is injured favoring pelvic infection The fracture may be intra or extracapsular The pain is extreme the danger great and the greatest care is necessary If there is no infection expectant conservative treatment is applied the joint being perfectly immobilized in a plaster cast including the pelvis Early transportation should be a goal if possible In infection free incision should be made with counteropening and the extraction of free fragments and sequestra Secondary resection and sometimes disarticulation is indicated in necrosis stubborn infection and extensive fistula Primary disarticulation for shock or hemorrhage is fatal in more than half of the cases Reamputation or rather disarticulation after amputation of the thigh is fatal 60 per cent of them

Fracture of the femur constitute about one

fourth of the fractures of long bones The mortality is 14 to 17 per cent Most of the fractures are comminuted and the author has seen cases where there were as many as 6 or 8 orifices in shrapnel wounds The projectiles are generally lodged in the wound and suppuration is the rule Conservative treatment is best in the majority of cases The mortality in amputation is 50 per cent

In injuries of the knee immobilization is the best treatment especially with plaster Puncture should be performed if the effusion is too profuse and arthrotomy with free drainage in case of suppuration

In fractures of the bones of the leg there is suppuration in 8 out of 10 cases The fracture should be reduced and immobilized in plaster followed by extension in the hospital with the limb raised fragments should not be removed too soon

Injuries of the foot are frequently caused by ricocheting bullets and consequently are often infected by fragments of the stockings four out of five of them are complicated by fracture The toes frequently have to be amputated sometimes the entire foot

A Goss

Lemon F X Rays in War A. C. R. 12 Ray 1914
21 200 By Surg Gynec & Obst

Lemon has planned a self contained auto-van roentgen apparatus for field work The 35 h.p. engine serves either to run the van or a 150 volt dynamo

Besides a dark room and storage for the equipment the van carries two 12 inch coil outfits one with Wehnelt and one with mercury break These communicate through side doors with two tents 8x12 feet which when not in use roll up under the eaves of the van One side is designed for roentgenography and the other for fluoroscopy The van also carries two 100-gallon tanks one for petrol and one for water

Transportation is provided for a corps of twelve—two X ray surgeons two assistants one electrical engineer one mechanic two photographers four ambulance men

DAVID R. BOWEN

GYNECOLOGY

UTERUS

Tawildaroff F N Involvement of the Vagina in Carcinoma of the Cervix (Die Affektion der Vagina bei Portocarcinom) *Verhandl d f r* : A rksang, St Pet rsb 94

By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

Based on a thorough examination of his 62 cases the author comes to the conclusion that in cases of cancer of the cervix subepithelial foci can quite frequently be found especially in the posterior wall of the vagina even when the vagina appears macroscopically to be completely normal. Such findings are particularly frequent in adenocarcinoma of the cervix therefore the author advises that in the operation for carcinoma of the cervix the posterior wall of the vagina should always be removed.

Vov Holsr

Kriwaki L A : The Operative Treatment of Carcinoma of the Cervix (Die operat. Behandlung des Portocarcinoms) *Verh d d f r* : K rskang, St Petersburg 94

By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

The author always operates by laparotomy as this is the only way in which he can get a satisfactory view of the extent of the diseased area. He reports 736 cases, of which 99.84 per cent could be operated on. The duration of the disease varied from one month to two years; the mortality was 13 per cent. The patients were discharged on an average after 20 days. In 63 per cent of the cases glandular metastases could be demonstrated. In 27 cases there was recurrence. 1 of the patients were normal after 3 years. Nothing further has been heard of 56 of the cases operated on. The number of permanent recoveries cannot yet be determined.

Vov Holsr

Dobbert F A Immediate Results of Radium Treatment of Cancer of the Uterus (Unmittl bare Erfolge der Radiumtherapie bei Uteruskrebs) *Verhandl d f r* : A rksang, St Petersburg 94

By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

The author found marked improvement of the subjective condition after the use of radium but many times there were complications such as local pain fever etc. Radium was used in 15 cases with inoperable carcinoma of the uterus in 8 cases there was improvement in 3 no change and 4 grew worse. The treatment is not yet ended in any of the cases, although radium has been used for three or four months. The microscope showed that the cancer tissue had disappeared and had been replaced by granulation tissue which contained products of disintegration of cancer cells. Radium

can be used in the treatment of cancer in the beginning stages and in inoperable cases.

Vov Holsr

Kossogladoff W M Th Immediate Results of Radium and Röntgen Treatment in Inoperable Cancer of the Uterus and in Post-Operative Recurrence (D mit Röntgen Ergebnisse der Radium u d Röntgentherapie bei inoperablem Uteruskrebs und bei postoperativen Recidiven) *Verhandl d f r* : A rksang, St Petersburg 94

By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

This work is based on 15 of the author's own cases. He thinks the effect of the rays on cancer tissue is relatively elective. Small doses have a stimulating effect on cancer tissue without irritating normal tissue while medium doses have an inhibitory effect on the carcinoma and call forth protective ferments in the normal tissue. Large doses cause general necrobiosis. The practical results of treatment with radiant energy are not yet uniform enough; this mode of treatment must yet be regarded as in the experimental stage and should be used only in the hospital.

Vov Holsr

Cobb F : Cancer of the Uterus, with Special Reference to the Possibilities of Cure by a Radical Abdominal Operation *Bull M & S J* 94 clxx 73 By Surg Gynec & Obst

Fourteen years ago the author became interested in the Wertheim extended abdominal operation and for the last three years under the selective system of the Massachusetts General Hospital has been assigned all operations for cancer of the uterus both of the cervix and of the fundus. During this time he has developed some original technique. His conclusions are based on a complete analysis of the end result of all the cases of cancer of the uterus at the above hospital for the 14 years from 1900 to 1913 inclusive 367 in number of which 70 were his own personal cases.

Of the 367 cases of cancer of the uterus 4 absolutely refused operation 57 were considered totally inoperable 173 could have only a palliative operation amputation or cutting and cauterization with or without ligation of the internal iliac arteries. There were 17 vaginal and 16 abdominal hysterectomies. In other words 270 cases came too late for any attempt at a curative operation (Fifty per cent of the patients coming to Wertheim in Vienna were operable). The average duration of symptoms in the 230 inoperable and palliative cases before the patients came to this hospital was about a year and it is doubtless true that cancer of the cervix may be

present many months and may even go into the inoperable stage with practically no symptoms.

There were 40 radical Wertheim hysterectomies in the hospital series with an immediate mortality of 22 per cent and 50 per cent of cures. In addition there were 27 abdominal hysterectomies for cancer of the fundus. The immediate mortality was 14.8 per cent and of those in which the operation was performed over five years before only 42.8 per cent were cured. The author has done the Wertheim operation for cancer of the cervix 34 times with an immediate mortality of 5 or 14.3 per cent and 7 abdominal hysterectomies for cancer of the fundus with no immediate mortality. Only 6 of his cases of cancer of the cervix were done more than five years ago of these 5 are alive and well and free from recurrence from five to thirteen years afterward. The causes of death in the cancer of the cervix cases were as follows: One case died of peritonitis within forty eight hours, one in twelve hours of shock, one on the tenth day cause of death not determined at autopsy, one in the fifth week of iliac thrombophlebitis and one in the tenth week of intestinal obstruction.

The author uses a combined spinal and ether anesthesia. He does not believe in curetting and cauterizing as a distinct preliminary operation but does it just after giving the spinal injection while the patient is being etherized. He frees the ureters in their entire course through the pelvis and lifts them with tapes. He considers the use of ureteral bougies unnecessary and dangerous. After freeing the vagina for a long distance from the bladder and rectum and lifting the ureters out of the way he applies two Wertheim right angle clamps and cuts between them with an electric cautery. Of late he has ligated the internal iliac arteries in the majority of his cases and finds that it materially reduces the hemorrhage. He is convinced that this procedure does not cause any bladder complications or necrosis. He drains through the vagina with a strip of iodoform gauze the peritoneal surfaces being sutured over the gauze to form a floor. The head of the bed is raised the first week and salt solution is given per rectum every five or six hours. Urotropine and an injection of ether are essential.

C. H. D. V.

Tichoff I. I. The Radical Operation for Cancer of the Uterus by Laparotomy (Die Radikaloperation des Uteruskrebses per Laparotomie).

Verh. nat. d. A. B. G. St. Pet. 1904. 4. By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Gyn. geb. The limit of the operation for a radical cure must be extended in order to operate more radically and thereby get a greater percentage of permanent recoveries. This is possible (1) by bilateral ligation of the uterine and hypogastric arteries (2) by traction of the ureters and (3) by solution of the abdominal cavity from the organs of the true pelvis. The ligation of the hypogastric artery was unsuccessful in only one of

200 operations performed by Tichoff. The immediate results of the method were as follows: In ligation of the uterine artery the mortality was 23 per cent in ligation of the hypogastric 16 per cent in transplantation of the ureters 15 per cent. Since the time of observation is too short the permanent results cannot be reported. Vow. Holzst.

Zweifel E. Permanent Results after Operation for Recurrence in Cancer of the Uterus (Dauererfolge nach Rezidivoperationen bei Uteruscarcinomen). Arch. f. Gyn. u. 1904. 4. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gyn. geb.

Zweifel reports 23 cases of operation for recurrence in carcinoma of the uterus at the Jenä Gynecological Clinic. Among them 20 women were operated upon 31 times for recurrences 30 per cent of the cases are still alive after a period of freedom from further recurrence averaging seven and a half years. On the basis of these relatively favorable results Zweifel advises more frequent operation for recurrence as well as more frequent clinical control of patients operated upon for cancer especially during the first two years. Borell.

Allmann Non Operative Treatment of Carcinoma (Zur nichtoperativen Karzinombehandlung). St. M. 1904. 6. 5. By Surg. Gynec. & Obst.

Allmann gives a report of the mesothorium treatment of carcinoma of the uterus at the St. George Hospital in Hamburg. Large doses were used, 150 to 200 mg. applied for 24 hours with intervals between the treatments of 2 to 4 weeks. Nickel plated brass was used for filters and in the beginning of the treatment lead filters also especially in cases where there was much ichorous discharge. The ill effects observed were formation of fistulae, severe tenesmus, hemorrhage, fever and nervous disturbances. In the intervals between the treatments arsenic, iodine and cholin were given. Of 85 cases treated 15 died in one case the course of the disease was hastened by the irradiation 15 or 20 non operable cases were made operable 15 women who had recurrences or who refused operation are now capable of working and are free of symptoms. A. Goss.

Allek R. Further Experience in the Treatment of Myoma of the Uterus (Weitere Erfahrungen der Behandlung des Uterusmyoms). M. 1904. 4. 2. 125. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gyn. geb.

Supravaginal amputation of the myomata of the uterus is very much to be preferred to total extirpation. The latter is only performed in cases of malignant degeneration, myomata of the cervix in cases where there are large peritoneal wounds or faces on account of adhesions and where the myoma is complicated by tumors of the adnexa. In patients with a very low hemorrhagic content it is operated upon. The idea that myomata are benign should be given up as a common misconception.

GYNECOLOGY

UTERUS

Tawildoroff F N Involvement of the Vagina in Carcinoma of the Cervix (Die Affektion der Vagina bei Portiocarcinomen) *Verhandl d k krebshg St Petersburg 1904*
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

Based on a thorough examination of his 63 cases the author comes to the conclusion that in cases of cancer of the cervix subepithelial foci can quite frequently be found especially in the posterior wall of the vagina even when the vagina appears macroscopically to be completely normal. Such findings are particularly frequent in adenocarcinoma of the cervix therefore the author advises that in the operation for carcinoma of the cervix the posterior wall of the vagina should always be removed.
Vov Housr

Kriwaki L A The Operative Treatment of Carcinoma of the Cervix (Die operative Behandlung des Portiocarcinoms) *Verhandl d k krebshg St Petersburg 1904*
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The author always operates by laparotomy as this is the only way in which he can get a satisfactory view of the extent of the diseased area. He reports 736 cases, of which 109 (14.8 per cent) could be operated on. The duration of the disease varied from one month to two years the mortality was 3 per cent. The patients were discharged on an average after 29 days. In 63 per cent of the cases glandular metastases could be demonstrated. In 27 cases there was recurrence. 11 of the patients were normal after 3 years. Nothing further has been heard of 56 of the cases operated on. The number of permanent recoveries cannot yet be determined.
Vov Housr

Dobbert F A Immediate Results of Radium Treatment of Cancer of the Uterus (Unmittelbare Erfolge der Radiumtherapie bei Uteruskrebs) *Verhandl d k krebshg St Petersburg 1904*
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The author found marked improvement of the subjective condition after the use of radium but many times there were complications, such as local pain, fever, etc. Radium was used in 5 cases with inoperable carcinoma of the uterus. In 8 cases there was improvement in 3 no change and 4 grew worse. The treatment is not yet ended in any of the cases although radium has been used for three or four months. The microscope showed that the cancer tissue had disappeared and had been replaced by granulation tissue which contained products of disintegration of cancer cells. Radium

can be used in the treatment of cancer in the beginning stages and in inoperable cases.

Vov Housr

Kosogljadoff W M The Immediate Results of Radium and Röntgen Treatment in Inoperable Cancer of the Uterus and in Post Operative Recurrence (Die unmittelbare Ergebnisse der Radium und Röntgen Therapie bei inoperablem Uteruskrebs und bei postoperativen Recidiven) *Verhandl d k krebshg St Petersburg 1904*
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The work is based on 15 of the author's own cases. He thinks the effect of the rays on cancer tissue is relatively elective. Small doses have a stimulating effect on cancer tissue without irritating normal tissue while medium doses have an inhibitory effect on the carcinoma and call forth protective ferment in the normal tissue. Large doses cause general necrobiosis. The practical results of treatment with radiant energy are not yet uniform enough; this mode of treatment must yet be regarded as in the experimental stage and should be used only in the hospital.
Vov Housr

Cobb F Cancer of the Uterus with Special Reference to the Possibilities of Cure by a Radical Abdominal Operation. *Bull H & S J 914* LXXI 73 By Surg Gynec & Obst

Fourteen years ago the author became interested in the Wertheim extended abdominal operation and for the last three years under the selective system of the Massachusetts General Hospital has been assigned all operations for cancer of the uterus both of the cervix and of the fundus. During this time he has developed some original technique. His conclusions are based on complete analysis of the end result of all the cases of cancer of the uterus at the above hospital for the 14 years from 1900 to 1913 inclusive 367 in number of which 70 were his own personal cases.

Of the 367 cases of cancer of the uterus 430 were refused operation 57 were considered totally inoperable 173 could have only a palliative operation—amputation or curettage and cauterization with or without ligation of the internal iliac arteries. There were 17 vaginal and 116 abdominal hysterectomies. In other words 270 cases came too late for any attempt at a curative operation. Operability of only 36.2 per cent. (Fifty per cent of the patients coming to Wertheim in Vienna were operable.) The average duration of symptoms in the 230 inoperable and palliative cases before the patient came to the hospital was about a year and it is doubtless true that cancer of the cervix may be

GYNECOLOGY

UTERUS

Tawildoroff F N Involvement of the Vagina in Carcinoma of the Cervix (Die Affektion der Vagi bei Portiocarcinom) *Verh. nat. d. I. ss*
A. Abshang St. Petersburg 94
By Zentralbl. f. d. Ges. Gynäk. u. Geburtsh. d. Grenzgeb.

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Vov. Hölzer

Kriwiski L. A. The Operative Treatment of Carcinoma of the Cervix (Die operative Behandlung des Portiocarcinoms) *Verh. nat. d. I. ss*
Kreb. h. St. Petersburg 94
By Zentralbl. f. d. Ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author always operates by laparotomy as this is the only way in which he can get a satisfactory view of the extent of the diseased area. He reports 736 cases of which 109, 18.4 per cent, could be operated on. The duration of the disease varied from one month to two years; the mortality was 13 per cent. The patients were discharged on an average after 29 days. In 63 per cent of the cases glandular metastases could be demonstrated. In 27 cases there was recurrence. 11 of the patients were normal after 3 years. Nothing further has been heard of 56 of the cases operated on. The number of permanent recoveries cannot yet be determined.
Vov. Hölzer

Dobbert F. A. Immediate Results of Radium Treatment of Cancer of the Uterus (U. mittelbare Erfolge der Radiumtherapie bei Uteruskrebs) *Verh. nat. d. I. ss*
A. Abshang St. Petersburg 94
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Vov. Hölzer

Kossoglyeff W. M. The Immediate Results of Radium and Röntgen Treatment in Inoperable Cancer of the Uterus and in Postoperative Recurrence (Die unmittelbaren Ergebnisse der Radium und Röntgen-therapie bei inoperablem Uteruskrebs d. bei postoperativen Recidiven) *Verh. nat. d. I. ss*
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Of the 367 cases of cancer of the uterus, 4 absolutely refused operation; 57 were considered totally inoperable; 173 could have only a palliative operation—amputation, curetting and cauterization with or without ligation of the internal iliac arteries. There were 17 vaginal and 16 abdominal hysterectomies. In other words, 270 cases came too late for any attempt at a curative operation; an operability of only 36 per cent. (Fifty per cent of the patients coming to Wertheim in Vienna were operable.) The average duration of symptoms in the 230 inoperable and palliative cases before the patient came to the hospital was about a year and it is doubtless true that cancer of the cervix may be

of myomata is much more frequent than is generally supposed

Because of the very good result obtained in the operative treatment of myomata of the uterus roentgen rays are used comparatively rarely for this condition. Of 6 patients treated by irradiation 9 were cured 4 improved and 3 not improved. Roentgen rays are used only on patients who are afraid of the knife and in cases where operation is contra indicated. The time has not yet come for roentgen treatment to be substituted for operative treatment of myoma of the uterus. G Hirsch

Gordon O. A. Histogenesis of Myosarcoma, with Report of Four Cases. *Bull. N. Y. Acad. Med.* 1919. By Surg. Gynec. & Obst.

The author reports four cases of myosarcoma uteri which occurred in the Woman's Hospital during a period of less than two years. In none of the reported cases was the presence of any malignant condition noted before operation. The cases went to the operating table as myomata uteri and the diagnoses were brought to light as a part of the routine examination of all operative tissues.

The following case is typical. A woman aged 32 was admitted to the hospital with the following history: Menses regular since 13 with the exception of the past year. Had two children 10 and 12 years of age, both of whom were normally delivered. Had suffered from an increasing menorrhagia for the past year and for two months past had had a profuse vaginal discharge, yellow and watery without odor and most profuse a few days before menstruation. Physical examination showed a symmetric tumor in the hypogastrium extending about a hand's breadth above the pubes. By manual examination the uterus was found to be enlarged, hard, irregular and freely movable. A supravaginal hysterectomy was performed. On examination the uterus showed the following pathology: It was a balloon shaped body of 13 cm diameter, the shape being due to a large polypoid body 8 cm long by 3 cm wide which arose from the side wall and appeared to be a highly oedematous polypoid myoma. A submucous myoma 3 cm in diameter was found in the fundus. The polypoid myoma showed a hemorrhagic infiltration of the lower portion of about 2 cm width. There was an area of hypostatic softening on the tip. Microscopical examination showed that the polyp consisted of highly oedematous muscular tissue. The edge of the polyp showed a macroscopically visible mass of dark stained cells. These had no distinct outline toward the oedematous musculature; they were very numerous and were shaped like short spindles. There was a slight optical unrest in that portion. The diagnosis was myosarcoma in myomatous polypoma.

In one other case the tumor was found to be a tramural.

The author discusses the histogenesis giving the prevailing theory of Virchow, Ribbert, Conheim and Meyer. The weight of opinion seems to be

with Conheim and Meyer in the theory that sarcoma cells do not arise from mature muscle-cells but from intermediate embryonal undifferentiated cells. EDWARD L. CORVILL.

Hellmuth. Influence of Menstruation on Haemolysis of Vaginal Bacteria. (*Ubt die Menstruation auf die Hämolyse der Scheidenkeime*). *Mitt. d. f. Geb. u. Gynäk.* 1914, 21, 550. By Surg. Gynec. & Obst.

Some authors hold that haemolysis is a specific characteristic of certain very virulent strains of streptococci. Others contend that it is only an accidental characteristic dependent on the blood content of the nutrient medium. If the latter assumption were true, haemolysis would develop in ordinary streptococci during profuse menstruation or metrorrhagia.

Hellmuth describes in detail a series of experiments undertaken to show whether haemolysis does develop in vaginal bacteria during menstruation. He found that it did not, even in two cases where metrorrhagia had persisted for weeks. Haemolytic bacteria could not be demonstrated. In the three cases in which haemolytic bacteria were found he thinks that they did not develop during menstruation from non-haemolytic ones but reached the vagina through invasion or inoculation. He does not feel that he has proved that haemolysis could not develop under long continued haemorrhage as for example in myoma, but he thinks his experiments are sufficient to prove that haemolysis is not merely a result of the blood content of the nutrient medium of the bacteria. A. Goss.

Zekete. A Value of Rossa's Operation in Dysmenorrhoea and Sterility. (*Sul valore dell'operazione Rossa nei casi di menarca ed infertilità*). *Policlinico Roma* 1914, 358. By Surg. Gynec. & Obst.

Zekete lauds the fine results obtained by systematic mechanical dilatation in cases of stenosis, deformity or obstruction from any cause of the lumen of the cervix. In 18 cases the women had never conceived and menstruation was more or less painful. In six of the cases the mucosa showed signs of chronic inflammation or hypertrophy. The mucosa was curetted and touched with tincture of iodine and the intracervical stem pessary introduced and held in place by gauze packing which was changed each day care being taken each time to see that the instrument was in place. The patient remained in bed for eight days and continued to wear the uterine pessary for twenty days. It was moistened and cleansed two or three times and never caused the least disturbance.

In the 20 cases treated for dysmenorrhoea complete success was realized in 11, the cervix becoming of normal size and shape and no longer opposing any obstacle to the menstrual flow and in the others the formerly extreme dysmenorrhoea has been very much improved. This systematic method

of treatment corrects infantile conditions and ante flexion or both. In some cases the dysmenorrhea did not develop until after marriage. **A Goss**

Kosmak, G W Effects on Subsequent Labors of Operations for Uterine Displacements. *A J St J Med* 19 4 2 489

By Surg Gynec & Obst

The two great divisions into which cases may be divided which demand operative relief for mal positions of the uterus are retroversion and procidentia. Kosmak refers to cases in which the Kelly suspension operation or the Gilliam operation has been done in some of which difficulty in labor was experienced in that the position of the uterus made it hard for the head to engage after that occurred labor proceeded normally. After ventrofixation cesarean section was necessary in several cases.

Attention is called to the fact that many operators perform the so called interposition operation in women who may still bear children and in several such cases cesarean section was necessary the incision passing through the posterior wall of the uterus. The author has observed that operative labors are frequent after ventro- and vaginofixation and that dystocia occurs even after ventral suspension has been performed because the character of the operation, infection etc really produce fixation. Kosmak favors round ligament plications.

It may be stated in reviewing this paper that the old style Kelly suspension should be done with the sewing of the anterior wall of the uterus to the peritoneum of the anterior abdominal wall which new situation obviates many of the annoying features resulting from the old method in which the posterior surface of the uterus was attached to the anterior abdominal wall. The author is none too severe in his criticism that the interposition operation should never be done without preventing future pregnancy. In any woman who still wishes to have children sewing the anterior wall of the uterus to the anterior wall of the vagina endangers the patient's life if pregnancy occurs. Emphasis must be placed on the fact that whenever this operation is performed, there should be resection of a certain area of the tubes or the tubes should be cut at the uterine cornua and the interstitial portion of the tubes buried beneath the peritoneum.

This paper gives a thorough rational analysis of the effect on subsequent labors of operations for uterine displacements. It is viewed from the standpoint of the obstetrician into whose hands these cases usually fall and who is, therefore, fitted to express a practical opinion decisively. **S W BAKER**

Souther, C T The Watkins Wertheim Dührsen Operation. Other Method in the Treatment of Uterine Prolapse. *Lancet* Cl 9 4 58

By Surg Gynec & Obst

The author gives the following indications and contra-indications for the Watkins operation

1 The patient should be past the menopause or it should be agreed that a future pregnancy should be made impossible by proper treatment of the tubes
2 A degree of cystocele to the extent of bulging from the vagina should be present

3 The uterus should present some degree of prolapse

4 Any degree of prolapse of the uterus up to and including complete procidentia

5 Certain types of retroversion with cystocele and descensus in patients at or past the menopause

The contra indications are

1 An operator should be capable of handling any emergency in vaginal work and should be thoroughly familiar with practical details of a vaginal hysterectomy before attempting this operation

2 Complicating fibroids are best dealt with through the abdominal route

3 Ovarian tumors and tubal complications should be dealt with through the abdomen yet Dührsen Wertheim and others have removed large ovarian cysts and intraligamentous cysts by anterior vaginal coeliotomy

4 When the condition of the cervix is suggestive of cancer the operation can very easily be converted into a hysterectomy

Neither ventral fixation nor hysterectomy will cure uterine prolapse. However a properly performed Watkins operation will cure when supplemented by a properly performed perineorrhaphy. Two points with reference to perineorrhaphy must be borne in mind (1) There must be a coaptation of the levator muscles and (2) the posterior vaginal wall must not be shortened, i.e. the crown stitch must not be used. A flap of the posterior wall can be removed in most cases but a puckering crown stitch should not be put in. The vaginal wall is narrowed laterally thus leaving the posterior vaginal wall as long as possible to prevent pressure bringing the cervix forward. **EDWARD L. CORWELL**

Gardner, W S Round Ligament Suspension of the Uterus. *J Illus A Coll Phy & S* 914 7

By Surg Gynec & Obst

The author's paper is based upon the report of 6 cases of retrodisplacement of the uterus that have been treated by round ligament suspension, a part of them after the method of Gilliam. Of these patients 47 were relieved of their symptoms in six cases the uterus remained in position but the symptoms were not relieved in seven cases there was marked improvement but not entire relief. In all the cases that were followed and examined the uterus was found to be still in good position. The author thinks the pessary is useful in cases of acquired retrodisplacements of recent occurrence when of long standing however he finds the pessary is of very little value and in retrodisplacement in nulliparae almost useless. Gardner follows the Gilliam technique for a modification whereby the round ligament is pulled up through the vaginal canal. **S W BANDLER**

Sternberg H Th Isthmus of the Uterus (Z
 1 rage des Isthmus uteri) *Rev* Geb tsch w
 G 24 9 4 2 332
 By Zentralbl f d ges G 24 Geburtsh u d Grenzgeb

When Aschoff in 908 showed that the uterus consisted of three segments he pointed out that the existence of the isthmus could be demonstrated only by microscopical examination. This threefold division of the uterus is now denied by Buttner and Graessl, while it has been confirmed by Hegar, Ogata, Pankov, and Iva Moritz. Sternberg examined 43 uteri microscopically, 33 of them non pregnant and 8 of them pregnant, and could demonstrate an isthmus according to Aschoff's definition in all of them.

According to the authors Buttner's contention that the epithelium in the body is like that in the isthmus is due to the fact that he overstained his sections with concentrated mucicarmum solution so that not only the protoplasm of the epithelial cells in the isthmus but also that in the body seemed to be colored red. The isthmus is a transition segment between the cervix and the body of the uterus with a characteristic superficial epithelium. Each physician can decide for himself whether this superficial epithelium of the isthmus is to be compared morphologically more with that of the body or functionally more with that of the cervix. KLEIN

ADNEXAL AND PERIUTERINE CONDITIONS

Aschner B Morphology and Function of the Ovary under Normal and Pathological Conditions (Uber Morphologie und Funktion des Ovariums unter normalen d pathologischen Verhältnissen) *Arch f G 24 9 4 446*
 By Zentralbl f d ges Gynäk Geburtsh u d Grenzgeb

The morphology of the so called interstitial gland of the ovary is discussed. There has been an increasing tendency recently to hold this gland responsible for the internal secretory action of the ovary. From his own numerous experiments on the most varied species of animals the author tries to settle the much disputed question of the interstitial ovarian gland. From the detailed histological examination of the ovaries of his animals it appears he finds that the interstitial ovarian gland is most pronounced in rodents, insectivora, chiroptera, and animals of prey in their youth. It is developed from the atretic ovum follicles of the theca interna. With the appearance of the first corpus luteum the interstitial ovarian gland of these animals decreases so that there seems to be certain reciprocity between the corpus luteum and the interstitial ovarian gland. Good development of the interstitial glands in these animals is closely connected with their fertility.

In animals which bear many young at a time there is a highly organized ovarian gland. At the age of sexual maturity in contrast with the condition in man and in animals only bearing one or two young at a time such a highly organized

and more keys. In the latter the interstitial ovarian gland is in a rudimentary condition and with the appearance of the first corpus luteum of menstruation disappears completely.

By the aid of Abderhalden's reaction Aschner tries to show the dependence of various clinical conditions and diseases on the ovary and the dysfunction of the ovary in such conditions. In normal menstruation and normal pregnancy there is no katabolism of ovarian and corpus luteum substance but in individual cases of toxemias of pregnancy and atypical cases of menstrual or intermenstrual hemorrhage there is. Also in ovarian hemorrhages, whether during puberty or the climacteric ovarian substance is katabolized; the majority of cases and this shows dysfunction of the ovary. As to the relation between chlorosis and ovarian activity Abderhalden's reaction is positive in many cases, especially in those cases of chlorosis that are accompanied by menstrual disturbances. This again shows dysfunction of the ovary and indicates that the ovary is one of the etiological factors in the production of chlorosis. In addition there is a marked dysfunction of the spleen in chlorosis as is shown by the fact that splenic tissue is katabolized in the majority of cases. Therefore in the treatment of chlorosis, in addition to iron spleen tablets should be used. The etiological connection between ovarian secretion and myoma which has heretofore been assumed is supported by the positive outcome of the Abderhalden reaction. In the amenorrhea of the menopause in contrast with ovarian hemorrhage the Abderhalden reaction was negative. Here it is a question of hypofunction of the ovary. Therefore in the treatment of the symptoms of the menopause the use of ovarian tablets is justified. In a series of other diseases the ovary is regarded in some as a causative factor and in others as an organ that is injured secondarily. BOZZI.

Bonn H K An Uncommon Anomaly of the Left Ovarian Artery and Vein *Urol & G 15 Rev*
 19 4 584 By S 22 Gynec & Obs

The anomaly of the left ovarian artery and vein described was discovered by Bonn in the course of a dissection of the left kidney.

Bonn states that his subject the left renal artery proper prang from the aorta at the usual site and entered the kidney at a central hilum. One a fourth of an inch below the origin of the left renal artery the artery only slightly smaller than the ordinary lead pencil was given off from the right and entered the lower pole of the kidney. The anomalous renal artery divided into two branches just before entering the kidney and was situated one quarter of an inch in length.

The left ovarian artery was given off by this anomalous renal artery on an oblique arch from the point of origin. The left renal vein was formed by the union of a vein coming from the lower pole of the kidney at the site of entrance of the

anomalous renal artery with the left ovarian vein at a point posterior to and to the right of the origin of the left ovarian artery. This vein continued to the right and joined the renal vein proper at the left border of the aorta. The veins to the central hilum and the lower pole of the kidney lay posterior to both the anomalous renal and the ovarian arteries.

A possible unusual origin of the right ovarian artery was also found in the same cadaver. An extensive search of the abdominal aorta below the origin of the renal arteries failed to disclose any vessel which could possibly be the right ovarian artery but a vessel which faced downward toward the pelvis was given off by the aorta in the interval between the origins of the coeliac axis and the superior mesenteric. This vessel had been torn off at practically its point of origin, therefore the author's assumption that this vessel was the right ovarian artery is admitted by him to be open to question.

English and German anatomies mention only a few cases of anomalous origin of the ovarian vessels.

Grad II Carcinoma in the Wall of a Large Hydrosalpinx Implanted from a Primary Carcinoma of the Peritoneum B II II m
Hosp N Y 9 4 24

By S rg Gynec & Ob t

A case of carcinoma in the wall of a large hydrosalpinx is reported in a woman 55 years of age who had been married 31 years. She had one child the first year of her marriage and had had no miscarriages. She had been perfectly well until two months before operation at which time she noted a slight vaginal discharge of a watery nature. At the same time she developed an abdominal pain on the right side which was of a mild character becoming quite severe at times. The patient presented a good general appearance with no anemia and no loss of weight. She slept well had a good appetite but felt constantly fatigued. On examination there was pain on pressure immediately above the symphysis pubis and in both groins.

Bimanual examination revealed several nodular masses in the pelvis. They were firm and somewhat tender to touch. The uterus could not be clearly outlined and the nodular masses seemed to be connected with it. The cervix contained a small polypus. On rectal examination the same nodular masses were plainly palpable and more tender. A diagnosis of fibroids of the uterus was made.

At operation peritoneal adhesions were encountered. After breaking up the bowel adhesions two large distended fallopian tubes came into view. The right tube was larger—6 in in length—and the fimbriated end was firmly adherent to the posterior wall of the uterus. The appendix was adherent to the tube. The adhesions to the left tube were firmer. The uterus was small and atrophied. A double salpingo-oophorectomy was done also appendectomy. The cervix was amputated because of the existing polyp.

On examination the tube was congested and showed a round cell infiltration. The wall was invaded by irregular branching villi and nests of cells. A diagnosis of carcinoma of the tube was made. Six months after operation the patient again presented herself at which time there was ascites and the abdomen was distended. The abdomen was again opened and the peritoneal cavity was found to be studded with small tumorous masses, some of which were as large as a hen's egg while others were as small as a millet seed. The pelvis was full of nodular masses but the small atrophied uterus was perfectly normal. These nodules were found to be cancerous. The patient made a prompt recovery from the operation but died four months later from carcinomatosis of the peritoneum.

EDWARD L. CORNELL

EXTERNAL GENITALIA

R tterhaus Primary Carcinoma of the Vulva
(Über das primäre Carcinom der V lva) Deutsche
Z tsch f Ch 914 VII 436
By Zentralbl f d ges Gynak u Geburtsh d Grenzgeb

Three cases of primary carcinoma of the vulva are reported all three with metastases in the inguinal region the third with advanced general cachexia. In the first two cases the tumor was extirpated together with the glandular metastases, with good immediate results. The first case came back after ten months with a small recurrence while there has been no report of the late result in the other. Carcinoma of the vulva generally attacks women who are past 60 and it is on the whole not very frequent. Counting the author's cases about 270 cases have thus far been reported. The treatment consists in extensive early operation, the inguinal glands also being removed whether metastases can be felt in them or not.

RUGE

MISCELLANEOUS

Kupferberg H Röntgen Radium and Mesothorium Rays in Gynecology (R tgen Radium und Mesothoriumstrahlen m Dienst der Gyn kologie) F ikr d Med 9 4 X 145
By Su g Gynec & Ob t

The author succeeded in curing within the course of two or three months all myomata treated with 2 to 10 series of treatments varying according to the age of the patient from 30 to 100 X.

Myomata in young women should be excluded from this treatment as should submucous and subserous myomata those with pedicles those with an ichorous discharge and those showing evidence of malignant degeneration. Röntgen treatment is also to be preferred absolutely to every form of operative procedure in metropathies and dysmenorrhea and for artificial sterilization because it is absolutely without danger and does not produce the unpleasant by-effects of operation. Wertheim and Latzka have held that it was contra indicated in

carcinomata of the body and cervix of the uterus but the author thinks their experiments were not thorough enough and their conclusions not well founded. In contrast with their results are the brilliant ones obtained by Krönig, Gauss, Doderlein and Bumm.

The unfavorable cases for radium treatment are the abdominal carcinomata with distant metastases and recurrences after apparent radium cure. All inoperable carcinomata that are not too far advanced are favorable. Radium treatment gives at least as good results as operation is absolutely without danger and gives great hopes for the future.

A. Goss

Wolfenstein W. Frequency and Prognosis of Gonorrhoea of the Rectum in Vulvovaginitis in Childhood. The Curability of Vulvovaginitis (Über die Häufigkeit und Prognose d. Rectal gonorrhoe bei d. kindlichen Vulvovaginitis die Heilbarkeit der Vulvovaginitis). *J. a. f. Derm. Syph.* 914, 1917.

By Zentralbl. f. d. ges. Chir., Geburtsh. u. Gynäk.

In contrast with other authors Wolfenstein found 14 cases of gonorrhoea of the rectum in 26 cases of gonorrhoeal vulvovaginitis, a percentage of 54. It was treated like gonorrhoeal affections of other mucous membranes with silver salts. He found that the rectal gonorrhoea was at least as stubborn as that of the vulva and vagina. The gonorrhoea disappeared after 7 to 260 days of treatment, the average length of time being 61 days. Gonorrhoeal vulvovaginitis was under treatment 28 days to 9 months. Endocarditis occurred as a complication once but there were no joint complications. Of the 26 cases of gonorrhoeal vulvovaginitis 20 were examined later and 18 were found well; of the 14 cases of rectal gonorrhoea 9 were examined later and all of them found well.

G. L. Allen

Schneider N. Effect of Removal of Sexual Glands and Thyroid on the Gas and Nitrogen Metabolism in Females (Zur Frage über den Einfluss der Entfernung der Geschlechtsdrüsen und der Schilddrüse auf d. Gasa- u. Stickstoffwechsel bei Weibchen). *Dissert. (in St. i. terab.* 94.

By Zentralbl. f. d. ges. Chir. Grenzgeb.

Schneider's work may be regarded as a supplement to Rovinsky's work but differs from it in that the author's experiments were performed on female rabbits and dogs and the metabolism was determined partly in well nourished animals. The

author found in agreement with Rovinsky and other authors that thyroidectomy in female animals produces an increase in weight, a decrease in gaseous exchange and decreased albumin catabolism with a simultaneous increase in the deposition of albumin in the body. The castration of a female dog caused an increase in weight and a decrease in nitrogen excretion while gaseous exchange was not uniform. An animal that had had the thyroid removed was castrated before the cachexia resulting from deprivation of the thyroid had begun. The castration led to changes in metabolism similar to those resulting from castration of an animal with an intact thyroid.

Thyroidectomy in a castrated animal causes the usual changes: increase in weight, decreased catabolism of nitrogen, reduction of oxygen intake and carbonic acid excretion. The thyroid like the ovaries is an organ of internal secretion which plays an important part in albumin metabolism.

Strows, 12

Figueras S. An Unusual Laceration of the Female Urethra. *J. Gyn. & Obst.* 94, 1917, 674.

By Surg. Gynec. & Obst.

The patient, a woman of Maya Indian descent, 47 years old, had complained of urinary incontinence ever since an abortion twelve years previous.

Upon examination the mucosa of the vestibule appeared inflamed; theitoris was easily located but the urethral opening was absent. Close inspection disclosed a thick conical projection of mucous membrane of about an inch in length hanging down from the distal portion of the anterior vaginal wall with which it was connected by a broad base at about the upper third of the posterior face of this projection; the vaginal tubercle could be seen on its anterior face; there was a shallow groove running from its tip to its base at the anatomical position of the urethra; the anterior end of a second groove, narrower than the one described, with which it met forming an angle occupied by a urethral caruncle around which the urine could be seen flowing out continuously. It was evident that the two grooves represented the halves of the long, finally torn urethra which was torn during the abortion of a 5-month fetus manually extracted by midwife.

In all probability the urethra in a state of dilatation was caught and torn by the midwife's fingers. A plastic operation was performed.

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Hausmann T Results of Methodical Palpation of the Ileoecal Region with Special Reference to Ectopic Tubes (Ergebnisse der methodischen Palpation der Ileoecalgegend mit besonderer Berücksichtigung der ektopischen Eileiter) *Mö 1*
Arch f Geburtsh u Gynäk 19 4 xxxi 772
 By Zentl b f d ges Gynäk u Geburtsh d Grenzgeb

The author discusses his method of topographical deep palpation which makes it possible in a great majority of cases to palpate the appendix. He speaks of various factors in the differential diagnosis between appendicitis, diseases of the right urinary tract and tubal catarrh and thinks that sensitivity of the different segments of the right psoas is significant. He considers especially the so-called ectopic fallopian tube which may be in a perfectly normal condition but may be displaced into the right iliac fossa and so be confused with the appendix. Methodical palpation and support of the genitals will guard against such a mistake. diagnosis. He discusses several cases in point for details of which the reader is referred to the original.

MARA

St Lee, M B Caesarean Section in the Treatment of Eclampsia *Tex St J Med* 9 4 68
 By Surg Cy & Obst

Stokes compares the methods of treatment in eclampsia and describes three cases of primipara with marked urinary symptoms upon whom he performed caesarean section, the two mothers and all three children surviving. He makes plea for the further use of the method in eclampsia of primipara when there is a rigid cervix. multipara who have sclerotic cervixes whether there is a vaginal obstetric indication or not. In conclusion he states that up to the eighth month the vaginal route is the operation of choice but that after that time the technical difficulties are so increased that abdominal section is to be preferred and the best results will be obtained if the operation performed before the patient has undergone an eclamptic convulsion. L K P FARRA

Crosthwait W L Caesarean Section an Operation of Choice in Borderline Cases *Tx St J Med* 9 4 65
 By Surg Gynec & Obst

The author contrasts the merits of caesarean section with alternative procedures so-called borderline cases and the favorable results obtained in five cases operated upon by him. 12 recover. 1 female and 4 male infants. 14 fourth being non-viable at the time of operation. The

recognized indications for caesarean section are as follows:

- 1 When the conjugate diameter is less than 8 cm
- 2 The presence of neoplasms malignant disease of the cervix double vagina atresia or following ventral suspension
- 3 Tonic contraction of the uterus in tedious labor
- 4 Placenta previa
- 5 Eclampsia
- 6 Impacted face or shoulder
- 7 Prolapse of the umbilical cord
- 8 Heart lesions
- 9 Marked disproportion between the size of the pelvis and the fetal head

The following are classed as borderline cases:

- 1 Primipara when the pelvis is less than the normal size or when there is an abnormality in the size or position of the fetus and if the patient is thirty or more years of age as the fetus in such cases is apt to be large and well developed
- 2 Multipara when there is a history of instrumental or difficult labors especially the latter. If several years have elapsed since the last confinement and the fetal head is large
- 3 All cases of placenta previa
- 4 Labors especially in primipara with rigid cervixes or in multipara with histories of difficult labors and in all cases of apparently mild pelvis

Heart complications with marked valvular lesion or arteriosclerosis with high blood pressure when the indications point to a tedious labor.

Great stress is laid on the importance of careful measurement of the pelvis in all primipara and the securing of an accurate history and measurement of the pelvis in multipara who have had previous abnormal labors. All positive cases for caesarean section may thus be discovered before labor and all borderline cases may be recognized in time to give caesarean section the preference over other methods of delivery. L K P FARRA

Gröde-Höderer Tuberculosis and Pregnancy (Tuberkulose und Schwangerschaft) *Arch f Geburtsh u Gynäk* 19 4 xxxi 772
 By Zentl b f d ges Gynäk u Geburtsh d Grenzgeb

Pregnancy in women with pulmonary tuberculosis may cause open tuberculosis but in normal women pregnancy causes no predisposition to tuberculosis. Tuberculous women suffer more during pregnancy than normal ones because of (1) insufficient aeration of the lungs (2) defective nutrition in poorly nourished women (3) insufficient blood supply

(4) and the weakening of the protective substances of the body

Two stages of tuberculosis must be sharply distinguished as follows

The first stage is marked by infiltration of the apices of the lungs and of the parenchyma of the lungs and by catarrh of the apices of the lungs (a) In well nourished tuberculous women pregnancy has no effect and there is no indication for abortion. The woman should be examined at intervals of a month by an internist should be given sanitarium treatment should be given great care during labor and the puerperium and she should not be allowed to nurse the child. If the tuberculosis continues to progress after delivery tubal sterilization should be performed. At any rate sanitarium treatment should be given for a year after delivery. (b) Poorly nourished tuberculous women may become slightly worse during pregnancy. Labor is apt to be very difficult for them and they are apt to have a febrile puerperium. If the pregnancy is only of a few weeks duration abortion is indicated if it is of more than 12 weeks duration it should be allowed to continue. The patient should be under the constant care of an internist. Nursing should be absolutely forbidden and further conception should be prevented.

The second stage is marked by cavernous infarcts, hæmoptysis and infiltration of the entire lobes. In this stage pregnancy is dangerous. In spite of this fact treatment should be as above in (b). If there is a vital indication abortion may be performed. This must be decided in each case. In borderline cases abortion must often be performed but many times it can be allowed to continue. In all cases an internist should be consulted and his opinion secured in writing.

The author urges that a central institution for caring for tuberculous pregnant women be established in Berlin. It is desirable that the operation for sterilization be performed in a sanitarium. Limitation of procreation by persons with severe tuberculosis is desirable in the interests of society.

GRAEFVICH

Zuloaga P. Suprarenal Insufficiency in Pregnancy (De l'insuffisance rénale et du grossesse). *Arch me d obst et d gy* 42: 94

By Zentralbl f d ges Gynäk. Geburt h d Grenz b

The author is inclined to think that the cause of many cases of sudden death during pregnancy labor and the puerperium is a defective functioning of the suprarenal glands and recommends that women with severe vomiting of pregnancy symptoms in this condition should be looked for. Where such an insufficiency is found or even suspected he recommends organotherapy with fresh suprarenal substance beginning with 15 to 2 gm and advancing to 5 gm per dose or a tablet of as much as 30 cg three times per day or he gives adrenalin solution 1:1,000 five drops every twelve hours gradually increasing to eight or ten drops per dose.

In very urgent cases he prefers subcutaneous infusion of salt solution containing 1 cc of adrenalin solution to one fourth of a liter of salt solution. Pregnancy should be interrupted only when this treatment fails. Such cases need to be watched carefully even after the emptying of the uterus, in order to prevent complications. Later conception should be prevented in women who have shown severe disturbance in the function of the suprarenals during pregnancy.

McAllister V J: The Kidneys and Heart in Pregnancy with Special Reference to the Blood Pressure Changes. *Med Pre & Ctr* 1914 20: 536. By S. G. Gynec & Obst.

Uncomplicated valvular lesions are not particularly serious. Successive pregnancies are well borne provided they are separated by an interval of several years.

The greatest cardiac lesions are those in which the musculature is involved. To recognize and properly appreciate these changes experience and careful observation with functional tests are required.

Combined cardiac and renal lesions complicating pregnancy are extremely serious. In these cases a study of the blood pressure is important as the work of the heart is greatly increased when the blood pressure is markedly elevated.

The acute kidney of pregnancy is not usually associated with much increase in pressure and it rapidly responds to treatment. Its effect is only transitory.

In the chronic form the blood pressure is markedly and progressively increased and usually resists treatment. In some cases the elevation is compensatory.

The author feels that a moderately high pressure accompanied by other signs and symptoms of the chronic kidney of pregnancy is favorable and renders the onset of eclampsia more remote.

A. C. BICK

Bondy O. P. Precious Vomiting of Pregnancy (Zur Lehre von der Hyperemesis gravidarum). *W. tsch f G b t k G* 42: 94. By Ze. trahf f d ges Gynäk. Geburtsh d Grenzgeb.

Bondy discusses three cases of severe vomiting of pregnancy which were of special interest among those that occurred in the obstetrical clinic at the Breslau gynecological clinic. In the first two cases abortion was performed notwithstanding which both patients died the first after three days with symptoms of uremia the second without the abortion having taken place although the membranes had ruptured two days before the pregnancy was the third to die in the month. The post mortem findings in both cases as described by Heinrich Dorff. In the first case there was toxic nephritis and septic endometritis. The second case showed acute yellow atrophy of the liver. The third case was treated with the serum of pregnancy and recovered.

Bondy thinks that perhaps in the second case he waited too long to perform the abortion. He discusses the etiology and believes that it is a toxicosis on which psychic influences may have a specially harmful effect. He does not agree with Heinrichsdorff that the post mortem findings argue against a toxicosis but he does not regard the findings as a proof of such a toxicosis. **RÖNKE**

I. Lohner's Medical Treatment of Pernicious Vomiting of Pregnancy Based on the Most Recent Experience (Le traitement médical des vomissements graves de la gestation d'après les données les plus récentes) Liège P. 1913

By Zentralblatt für Gynaekologie und Geburtshilfe Grenzgeb.

Pernicious vomiting develops on a neuropathic basis and is a sort of placental toxæmia in which the excretion of toxins and the formation of antibodies is insufficient and this is supplemented by insufficient emptying of the intestine. As a consequence of the vomiting marked inanition appears and there is great loss of water and acidosis of the body. The patient must first be isolated and removed from her ordinary surroundings then the stomach placed absolutely at rest. The intestines should be emptied by purgatives and the loss of water replaced by sugar infusions three the first day of 500 gm. each. On the second day the 500 gm. sugar infusions are given twice also three to four rectal infusions of 1 liter each by the drop method through a Nelaton catheter 5 to 10 gr. soda being added to the infusion for the acidosis. On the third day the treatment is repeated and in addition every half hour and later every quarter of an hour a tea spoonful of mineral water is given. When the water is no longer vomited milk may be given a spoonful at a time instead of the water or if the patient does not like milk purée of potatoes or rice may be given. Ordinarily the first part of the scheme of treatment suffices to put a stop to the vomiting. If it does not however the infusions and rectal injections should be continued and the injection of Ringer's solution horse serum and the serum of a pregnant woman tried in the order named at the beginning of the treatment. The serum of a pregnant woman should be prepared for the horse or no milk human serum may be substituted. Woman's serum is to be preferred to man's serum of the human blood should not be used. Was serum examination should always be made before any treatment is undertaken.

This scheme of treatment should be modified to suit the case sometimes it must be hastened but as a rule it gives good results. **FRANKLIN**

Faranti A. A Case of Polyneuritis Cruralium. I. The History of the Case (I. L'histoire de la maladie) Liège P. 1913

By Zentralblatt für Gynaekologie und Geburtshilfe Grenzgeb.

The patient, 39-year-old, VIII para from the seventh month of pregnancy had been troubled with

profuse diarrhoea and with oedema of the legs in the eighth month she had disturbances of sensation and motion in the lower extremities. Examination by the author nine days post partum showed atony of the uterus caused by oedema of the uterine musculature probably phlebitis of the uterine vein and phlegmasia alba dolens in the right leg peripheral nervous disturbances of the extremities spontaneous disturbances of sensation disturbances of motion in all the extremities and atrophy of the feet and hands at the metatarsus and metacarpus. The diagnosis was polyneuritis from intoxication of pregnancy. The patient recovered after four months treatment with strychnine massage faradization and sea baths. **GRUBER**

LABOR AND ITS COMPLICATIONS

Gardiner J. Post Partum Haemorrhage and Its Treatment. J. M. J. 94: 1007

By S. G. G. and Obst.

Post partum haemorrhage is a rare condition occurring in only about 0.4 per cent of cases (Hofstatter). Clinically there are 2 varieties concealed and visible. For diagnosis of the former condition the uterus must be closely watched through the abdominal wall. The author cites a case of this kind in which the placenta was manually removed and an abdominal binder applied also ergot and pituitrin were given.

Visible haemorrhage may arise from any part of the generative tract. The author cites a case of haemorrhage from a ruptured varix controlled by compress and 20 ccm human serum. Haemorrhage from a lacerated cervix is sometimes serious and hard to control. A case is cited where ligation was impossible and packing was resorted to.

In the treatment the first factor is to control the bleeding. The patient is placed in the Trendelenburg position the abdominal aorta is compressed digitally or mechanically (Momburg's belt). If the haemorrhage is from the uterus it should be stimulated by massage and by hot intra uterine douches—115 to 120°F—of a weak iodine solution. If contraction does not occur the uterus should be packed with strips of sterile gauze. After packing an abdominal binder and sometimes a compress (as a sandbag) are used. Ergot and pituitrin are also used. Hysterectomy is used as a last resort. **EXPERIENCE**

Ainslie F. H. Hystereotomy. J. Cal. P. 1913

By S. G. G. and Obst.

His opinion upon the results in 6 cases of hystereotomy (hystereotomy) in 6 of which he was the operator the author concludes that the operation has proved a permanent place in the practice of obstetrics. In one instance a case of rectal presentation the saw was placed prophylactically but it was unnecessary to cut the bone.

He says the operation is most useful in cases of

funnel pelvis for frequently with this type of contraction the post-operative enlargement of the pelvis proves sufficient to permit spontaneous delivery in subsequent labors.

In cases of moderate pelvic contraction—conjugata vera 7.5 to 9.5 cm—the operation comes into competition with the induction of premature labor and cesarean section. The high mortality among premature infants makes the induction of labor undesirable. And since the test of labor materially increases the maternal mortality after cesarean section but not after pubiotomy whenever this test is desirable the latter operation should be the one chosen. On the other hand if the conjugata vera is less than 7.5 cm cesarean section should be performed at the onset of labor.

Pubiotomy is performed in the interest of the child and is not indicated if the fetus is dead. Craniotomy is then the procedure of choice. Like was in infected cases pubiotomy is contra indicated.

Under proper conditions pubiotomy is attended with a maternal mortality of 2 per cent or less and with a fetal mortality of 10 per cent or less.

The immediate results after pubiotomy are more satisfactory in slightly built than in heavy women. The former suffer very little while some of the latter experience some difficulty in locomotion for a few months after the operation. J. M. SLEMONS

PURPERIUM AND ITS COMPLICATIONS

Dani I. G. *Diagnosis and Treatment of Puerperal Infections* (Diagnostic et traitement des infections puerpérales) *J. de chir. et B. cancer* 94

335
By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

In general the author's opinion agrees with that of the majority of German obstetricians. He differs only in his very active local treatment in the beginning of the infection. With the first rise of temperature an intra uterine douche is given and if the temperature does not fall it is repeated. If in spite of this second douche the fever remains above 38 and chills occur curettage is performed if it is believed that remnants of the ovum remain in the uterus. The author does not say how this is to be determined as he does not believe that bacteriological examination of the lochia and of the blood are of decisive importance. In the prophylaxis of infection he recommends the strictest asepsis and repeated vaginal douches before and during labor. RICHMAN

Zowjanoff: *Curettage of the Puerperal Uterus* (Le Curettage des puerpérales Uterus) *F. strich* f. Pr. f. Geburtsh. 94
By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

Zowjanoff reports 17 cases of curettage of the puerperal uterus in infected cases with retention of remnants of membranes. Ordinarily the curettage was done on the third or fourth day of the puerperium after the first rise in temperature. No deaths

resulted. Six cases were bacillary infection, three pure streptococcus and three mixed bacillary and streptococcal infection.

The conclusions are: Curettage can be used in certain forms of puerperal fever. When performed as early as possible in cases of retention of membranes or blood clots it acts prophylactically against puerperal infection. It may be performed on any day of the puerperium but the effect is best when the operation is performed on the third or fourth day post partum. Thorough disinfection of the uterus after the curettage is necessary. The curettage causes strong retraction of the musculature of the uterus. Perforation is excluded if the dull curette is used. Contra indications are inflammation of the parametrium or perimetrium and a coating of the cervix as well as general infections. JEVRETT

MISCELLANEOUS

Fetzer M. *Specificity of the Abderhalden Reaction* (Über Spezifität der Abderhaldenschen Fermentreaktion) *Monatsschr. f. Geburtsh. Gyn.* 914 1 598 By Surg. Gynec. & Obst.

Fetzer finds that the Abderhalden reaction is strongly specific for pregnancy. In eclampsia liver as well as placenta was fatalized. He gives a table of 40 cases known clinically or from operation to have been pregnant; the reaction was positive in all but one in which it was doubtful. He also gives tables showing results in non pregnant cases of carcinoma and febrile disease and of ectopic pregnancy all of them confirming the marked specificity of the reaction. A. Goss

Heinemann F. *The Value of Antitrypsin Determination in Gynecology and Obstetrics* (Über den Wert der Antitrypsinbestimmung in der Gynäkologie und Geburtshilfe) *Monatsschr. f. Geburtsh. u. Gyn.* 914 1 768
By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

Heimann — not Heinemann — gives the results of antitrypsin determinations with the aid of F. H. S. casein method. The antitrypsin titer is increased not only in pregnancy and carcinoma but also in febrile diseases of the female abdominal organs. On the other hand, in certain cases of pregnancy or carcinoma the increase in antitrypsin was not observed. Since there is a number of other diseases such as epiphritis and Basedow's disease in which the antitrypsin titer may be markedly increased, it cannot be used for specific differential diagnosis. The method which on technical grounds is not adapted to general use can only be used to supplement other methods of diagnosis. GALLREY

Harrison V. W. *The Uses and Abuses of the Pituitary Extract in Labor* *Int. J. S. M.* 11 94 30 By Surg. Gynec. & Obst.

The author believes that the pregnant woman is as rule treated inhuman. In reference to

twilight sleep he states that it has been abandoned by men in this country who used it as early as 1902. He also deplors the misuses that forceps have been put to.

The main part of his article however treats of pituitary extract and he states that there are definite contra indications for its use. The action of the drug usually takes place inside of six minutes and should not be repeated oftener than every hour. If the first dose should not take effect another may be given in half an hour. The extract also caused contraction of the musculature of the bladder making catheterization unnecessary in the case of the author's cases. In 20 per cent of his cases it caused evacuation of the bowel. Blood pressure is markedly raised by the first administration—20 mm Hg in some cases.

Following administration of the drug Harrison had a case of angina pectoris and another case in which the child developed convulsions.

Contra indications to its use are normal labor, high blood pressure, arteriosclerosis and nephritis with insufficiency, small birth canal, an undilated cervix or a tumor blocking the pelvis. It should not be given in a case of exhausted uterus until the organ has had time to rest. It may be used to hasten the contraction of the uterus when delivering the second of a pair of twins.

Indications to its use are uterine inertia, post partum hemorrhage and at times it is used to shorten the third stage of labor.

The author has found great success with its use in primiparae. Some of the bad results from its indiscriminate use are: tear of the cervix, rupture of the uterus, detachment of the placenta prematurely and also hemorrhage from the uterus an hour after its administration. EUGENE CAR

Santi E. Comparative Study of the Effect of Extract of Hypophysis from Pregnant and Non-Pregnant Animals on Non-Striated Muscles. (Vergleich des Studiums über die Wirkung des Hypophysen-Extrakt auf die nicht gestrichelten Tiermuskeln.) M. K. L. S. 43

By Zentralblatt für Gynäk. Geburtsh. d. Grenzgeb.

Santi made his experiments with extract of hypophysis from the cow. He used a segment of the esophagus of the frog as an indicator. The experiments were so simple that errors were excluded. The contractions of the smooth muscle showed greater height and width when instead of salt solution extract of hypophysis from a non-pregnant animal was poured over it, there was further change in the same direction when extract of hypophysis from a pregnant animal was used.

When muscle was resting after exhaustion in salt solution it could be made to work again by being subjected to the action of extract of hypophysis. The action was more vigorous if the extract was from a pregnant animal. By modifying the order of the experiments the varying degrees of

action could be observed one after the other in the same specimen. The more advanced the pregnancy the greater the degree of activity of the extract. The extract from the male was more active than that from the non-pregnant female and almost as active as that of the pregnant female.

On these experiments performed on muscle from cold-blooded animals Santi bases a hypothesis as to the cause of the beginning of labor. He believes that it may safely be assumed that labor begins when the non-striated muscle fibers of the uterus can no longer withstand the irritation of the excretion of the hypophysis. If this is true premature delivery could be explained as a result of hyperfunction of the hypophysis. It is not certain that this effect can be attributed to the hypophysis alone; it may be supplemented by the secretion of other ductless glands. I. RANKENSTEIN

Hedley J. P.: Sterility in Women. *U. V. Rev.* 9, 4, 197. By Surg. Gynec. & Obst.

Hedley states that from 15 to 20 per cent of the cases of sterility are due to the husband and therefore his condition should be carefully investigated before any active steps are taken for the relief of sterility in the wife.

Three years is given as the most probable limit of fecundation and after that time the probability of conception becomes less and less with each succeeding year. Only 7 per cent of women who go past this time limit bear children.

Sterility may be (1) absolute—when pregnancy is impossible; (2) contingent—when pregnancy is possible but not probable. Either type may be congenital or acquired.

The absolute congenital type of sterility is due to faulty development of the generative organs, e.g., uterus, tubes, ovaries, etc. Malformations of the vagina may also be included in this category.

The absolute acquired type of sterility may be due to the destruction of the essential parts of the generative system, tumor formation, inflammation, surgical removal, etc.

The contingent congenital type of sterility may be due to lack of development of the ovaries or uterus, the toughness of the ovarian stroma thus preventing proper rupture of the follicles and a multiplicity of abnormalities in the uterus and vagina which increase the difficulty of the spermatozoon entering the uterus. Other causes may be an acute ante-flexion of the uterus, lack of sexual desire and escape of the seminal fluid from the vagina after coitus.

The contingent acquired type may be due to inflammation of the pelvic organs—particularly gonorrheal pelvic tumors that entirely or partially obstruct the passage of the ovum downward or the spermatozoon upward, inflammations of the vagina, conditions that cause dyspareunia and finally certain general diseases, viz., scarlet fever, mumps, obesity, severe forms of nephritis, chlorosis, diabetes, myxedema and chronic alcoholism.

In dealing with sterility it is of the utmost importance to ascertain the cause or causes of such condition. If it is found that the case in question is one of absolute sterility nothing can be accomplished by any form of treatment. Naturally the potency of the husband must be determined before the treatment of any form of sterility is instituted.

Sterility due to difficulty in intercourse other conditions being right is usually due to some sort of mechanical obstruction which may be easily removed by operation e.g. imperforate or rigid hymen vaginal septa etc.

Sterility: women associated with lack of sexual feeling may be overcome by frequent intercourse particularly near the menstrual periods. If associated with expulsion of seminal fluid the dorsal recumbent position with the buttocks raised for a time after coitus will materially increase the chances of impregnation.

Abnormalities of the cervix which cause sterility are (1) elongation of the vaginal portion of the cervix (2) atresia of the cervical canal and small internal os.

In the first instance amputation according to the method of B. Sney, is the operation of choice while in the latter conditions thorough dilatation followed by simple curettage gives very satisfactory results. The older operations of simply splitting the posterior lip of the cervix after thorough dilatation have grown obsolete for manifest reasons. Pozzi and Dudley have obviated the disadvantages of these operations by devising methods for covering the raw surfaces and preventing eversion of the cut edges.

Where sterility is due to an abnormal condition of the endometrium curettage followed by the application of tincture of iodine to the inside of the uterus, certainly increases the prospects of conception.

In the type of sterility associated with pelvic tumors removal of these naturally increases the chances of pregnancy provided such removal does not destroy the generative cycle. The breaking down of adhesions due to old pelvic inflammations often increases the chances of impregnation particularly when the fallopian tubes are implicated.

Sterility caused by antelexion may be treated by dilatation followed by the introduction of a stem pessary. The stem is left in place for week or ten days. In America the stem pessary is frequently left in the cervix for from one to three months. The Dudley operation is also highly recommended for correcting antelexion.

When sterility is due to retroversion and retroflexion the uterus should be put in place and held if possible by some form of pessary. Failing in this, some one of the intra-abdominal methods of shortening the round ligaments should be used.

For sterility due to abnormal vaginal cervical or uterine secretions proper diet antiseptic vaginal douches dilatation and curettage with the ap-

plication of a strong antiseptic to the cervical mucous membrane and glycerine tampon in the vagina are recommended. When all methods of treatment have failed the introduction of semen into the uterine cavity after the method of Hirsch may be tried. This method has proven successful in 6 out of 16 cases treated by Hirsch.

HA. VET. B. MATTHEWS.

Rohleder H. Artificial Impregnation (Die künstliche Befruchtung) II. H. R. Nachrichten 1914, XVII, 319.

By Zentralblatt für gynäk. Geburtsh. u. Gynäk.

Rohleder believes that artificial impregnation is a measure that is justified therapeutically and need not offend the moral sense of either the practicing physician or the married couple. Married couples are justified in demanding this last resort after all other modes of overcoming sterility have failed and the physician, justified in complying with their demand. Artificial impregnation may be indicated either because of hypotonia and/or malformations of the penis on the part of the man or because of stenosis of the os uteri displacement of the uterus or dyspareunia on the part of the woman. Its use is limited because it is only indicated when both of the couple have normal reproductive fluids but there is some mechanical hindrance to their union. Artificial impregnation may be intravaginal or intra-uterine. The author combines the two methods he injects semen into the uterus and lays a tampon moistened with semen in front of the os. This method was successful in 6 out of 16 cases 38 per cent while all the 65 cases reported up to 1910 about 30 per cent were successful. Toxicity.

Sobotta I. Human Twins and Double Meters from One Ovum in the Light of the Most Recent Research in Mammalian Embryology (Die Zwillinge und Doppelmissbildungen des Menschen im Lichte neuer Forschungsergebnisse der Säugtierembryologie) Str. d. Path. u. E. 1914, 394.

By Zentralblatt für gynäk. u. Geburtsh. d. Gynäk.

From his latest study of the development of the eggs of armadillos that are as a rule polyembryonic Sobotta believes that double formations in mammals are not the result of impregnation by two-tailed or two-headed spermatozoa and are not caused by isolation of the two first blastomeres. Even if we presuppose what is not yet thoroughly demonstrated the total potency of the blastomeres that is their capacity to form the foundation of the whole embryo would never get from such a separation twins from one ovum with common chorion since each blastomere would form not only an embryo but also the extra-embryonal membranes.

Sobotta's hypothesis attributes polyembryony in mammals to an isolation at first latent of the embryonic blastomere which lies apart from the

other blastomeres in the four cell stage and in all species examined thus far is distinguished by its large size. The three other blastomeres according to Sobotta gave rise to the trophoblast. The only case of a twin mammal at this early stage is that of a sheep described by Asaheton.

Sobotta hopes by his research to awaken the interest not only of embryologists but also of pathologists and gynecologists in this field of the history of development which thus far has not been cleared up.

WEINHAUPT

Tiven R J. Blindness Caused by Ophthalmia Neonatorum. *J Am Med Ass* 94 Nov 756
By Surg Gynec & Obst

The part played by ophthalmia neonatorum in producing blindness is a sadly conspicuous and leading one. No writer can be charged with unseemly reiteration, no medical tongue accused of boresome repetition no matter how often or how insistently he dwells on this painful humiliating truth, namely that the vast majority of infants could have been spared their sad affliction if only the simplest elementary precautions had been observed at the proper time.

A study of the statistics collected by different observers warrants the conclusion that one eighth of blindness from all causes is due to this disease and one fourth of the blindness among children is attributable to the same cause. Eight tables are given showing the prevalence of the disease here and abroad. In the schools for the blind 28.14 per cent of all new admissions in 1907 were victims of ophthalmia neonatorum. The activities of mothers have a great deal to do with this result and they should be better instructed.

The economic side of the question is likewise a matter of considerable interest. It is estimated that it costs the state \$3,000 to educate a blind child. The proper equipment and maintenance of schools for the blind requires a considerable expenditure. To these sums may be added the loss to the individual in earning capacity, the curtailing of avenues of opportunity, etc. which his affliction necessarily entails.

The etiology, pathology, clinical course and treatment are briefly touched upon. The Crede method of prophylactic treatment is highly recommended. If this method of prophylaxis were a universal use it is certain that the proportion of cases of ophthalmia neonatorum would be greatly reduced and in conjunction with the method practical measures might be devised to insure the early recognition and treatment of the disease. It is not unreasonable to assert that such infections might be almost entirely eradicated.

A cursory study of the situation discloses many perplexing problems which only patience, perseverance, discretion and cooperation may overcome. The plan proposed and carried out by the New York Association for the Blind is the one most likely to accomplish the largest measure of success.

EDWARD L CORVELL

Gauele K. The So Called Obstetrical Paralysis of the Arm (Über die sogenannte Entbindungslähmung des Armes). *Ztsch f orthop Chir* 94

XXIV, 51

By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

On the basis of four cases of his own the author comes to the conclusion that the so-called obstetrical paralysis is chiefly caused by injury to the capsule which on account of the pain on motion leads to contracture with internal rotation. The injuries to the epiphysis are generally only complicating by effects.

The treatment in recent cases is simple and successful. The arm is immediately fixed in abduction of 90 degrees and extreme outward rotation and after a few days of daily dressing the muscles are to be strengthened by massage. After 3 or 4 weeks no more bandaging is done, the only treatment being massage. In older cases during the first year the treatment is about the same and for the first decade marked improvement may be obtained by corrective bandages and gymnastics. In later life the internal rotation may be improved operatively by shortening of the pectoralis major (Helfferich) or by osteotomy of the upper arm (Hoffa-Lange).

GÄRTNER

Vercaut C. Maternal and Fetal Cholesterinemia (Col t r i m a m t e f e t a l e). *Fal* 25 cc
94 158

By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

Pregnancy always causes an increase in the cholesterol content of the blood, an increase which is demonstrable in the first quarter, markedly increased in the second and reaches its maximum toward the end of pregnancy. This increase in cholesterol is accomplished particularly by the adrenals, corpora lutea, placenta and the mammary gland. The function of the hypercholesterinemia is (1) an antitoxic one for the mother, a protective reaction against the toxemia of pregnancy and (2) a nutritive one for the fetus. The cholesterol content of the fetal blood is even lower than the average content in the blood of women who are not pregnant; the cholesterol of the fetus is only partly of maternal origin, for the fetus also contains much cholesterol in its glands of internal secretion.

WIENER

Dilatation of the kidney pelvis or calyx is not necessarily caused by stricture lower down but may be the result of tubercular disease of the pelvis or calyx. The ureter of the sound kidney may be tubercular and this fact may often be demonstrated by cystoscopic examination. The terminal stage may be in either one of two forms—the large gibbous tubercular kidney which consists of a series of pus-filled chambers communicating with each other and the pyonephrotic sacculus kidney which is practically a single pus sac. In only one case were there found healed tubercular changes without exclusion of the part of the kidney involved. The exclusion was sometimes brought about by calcification sometimes by caseation sometimes by fibrous obliteration. The caseation was doubtless the initial stage of the exclusion. Real and pseudo cysts and partial hydronephroses can also be found in tubercular kidneys. The pseudocysts originate from old obliterated cavities their contents cannot be demonstrated in animal experiments to be pathological. A real kidney cyst may be spared by the tuberculosis which affects the kidney. Regressive changes were found in one fourth of the tubercular kidneys examined always in connection with florid lesions. The so called putty kidney may also occur without the obliteration of the ureter.

VON LICHTENBERG

Tschalka A. A. Hæmorrhage after Nephrotomy
Its Prevention (Die Blutung nach der Nephrotomie
und ihre Verhütung) *Deut. ch. Zt. f. Ch.*
1904 CXII 24 B3 5 rg Cynec. & Obst.

In recent years nephrotomy has been used in an increasing number of conditions as it has been found to be a relatively harmless procedure. The chief danger is hæmorrhage and much study has been devoted to the best incisions and methods of ureter for preventing it. Tschalka describes a new experiment on animals and dogs to test the latest method of controlling such hæmorrhage, viz. tamponing the kidney wound with fat from around the kidney. These experiments show that the fat tampon does not have any unfavorable effect on kidney excretion. They also show that the fat tampon has great advantages over the usual closure by suture. Kidney fat is the best because it is found in the immediate neighborhood of the wound. It has good plastic properties and seems to be particularly suitable perhaps because it resembles embryonic tissue. The hæmorrhagic action of the fat tampon has also been confirmed by clinical work. The fat remains as living tissue and does not undergo necrosis.

Ghevaux M. Progress in Urinary Surgery from the Use of Ambard's Constant (Le progrès dans l'application de la constante d'Ambard à la chirurgie urinaire) *P. med.* 94 555
B3 7entralf. f. d. ges. Ch. (reneg. b.)

Ambard's constant with its square root is first looks rather formidable to the surgeon but the

clinician has nothing further to do but to take the urine and blood and send them to a chemist who reckons the constant. If the kidneys are normal the constant lies between 0.050 and 0.075 and is generally somewhere around 0.065. Values under 0.050 and over 0.075 indicate abnormal kidney function but it must be borne in mind that Ambard's constant only reports the kidney function with regard to the excretion of nitrogen and tells nothing of the excretion of water which is to be tested by experimental polyuria. Of course the constant only shows the degree of disturbance in function not the kind of disease.

There is a normal constant in all surgical kidney diseases and this shows that the kidney tissue as a whole is capable of functioning. An abnormal constant shows that the sum total of non-diseased kidney tissue is not capable of compensating the loss of the other kidney after nephrectomy. The author has never seen a case that has contradicted his assertion that with a normal constant there was unilateral kidney disease. Of course when it is possible the ureters will be catheterized but in cases where this is not possible the constant triumps. The constant 0.12 which indicates that the patient only retains a third of his urea function shows that it is inadvisable to perform nephrectomy but it must not be asserted that every patient with a constant of less than 0.12 on whom nephrectomy is performed recovers and that every one with a constant higher than that dies for the effect of a nephrectomy depends on several other factors. The author believes that only with an increase in the constant the chances of success decrease and that above a certain limit nephrectomy is dangerous. In conclusion it may be said that the determination of Ambard's constant gives greater precision in the surgical examination of patients with kidney disease and greater safety in the operation. It renders examination possible in patients that heretofore could not be examined and renders operation possible in cases where it has hitherto been regarded as impossible. It also simplifies a number of the classical methods of examination.

KOTZSCHE

Lichtenberg A. von. Technique of Pyelography (7 Techn. d. Pyelographie) *Z. f. Ch.*
1904 II 353 B3 5 rg Gy. et. & Obst.

The author describes his technique as used in 1000 pyelographies. He employs ureteral catheters No. 4-5 impregnated with bismuth or minimum. The flow of urine is a relative index of the capacity of the pelvis of the kidneys. After testing the renal functions a Charnier catheter No. 7 is introduced into the bladder and the patient is taken to the X-ray room. A warm 10 per cent solution of collargol is slowly injected through the ureteral catheters with a 10 ccm. record syringe without using force when the patient has the slightest sensation in the renal region the injection is interrupted. At the same time the bismuth of collargol is noted through the catheter in the bladder. If there is a continuous

backflow even with very slow injection, the injection is kept up during the X ray exposure even in cases where only 3 to 5 ccm collargol are sufficient to fill the renal pelvis. In large sacs 60 to 80 ccm may be injected. In some cases injection of a few cubic centimeters of collargol brings on an attack of colic even in large hydronephroses this may occur. In these cases there is no backflow of collargol and the urine shortly after the examination is collargol free. After several hours black urine is passed. This stoppage of the urinary flow shown by pyelography is an absolute early symptom of a beginning hydronephrosis. The principal contraindication to pyelography is hemorrhage. E. P. Zeisler

Buerger L. Primary Tuberculosis of the Pelvis of the Kidney. *Istria M J* 9 4 x 1 244
By Surg. Gynec. & Obst.

A careful study of 30 tuberculous kidneys received in the department of surgical pathology of the Mt Sinai Hospital New York during the last seven years showed that the most common type was that comprising primary involvement of the papilla. In two specimens, which are fully described and illustrated in the article, the recesses between the calyx and papilla or the renal pelvis were found to be the primary and only seat of the tuberculous process. These observations, although few in number, Buerger believes strongly favor the assumption that in chronic renal tuberculosis the bacilli gain access to the tissues by a process of filtration from the blood into the urinary tubules. The angle between the papilla and calyx may afford a favorable nidus for the accumulation of bacteria on the basis of stagnation and poor drainage at that point. M. Katoszova

BLADDER, URETHRA AND PENIS

Hagner F. R. Neoplasms of the Bladder. *A J M J* 9 4 804. By Surg. Gynec. & Obst.

Hagner believes that if the term benign tumors of the bladder was eradicated it would be a great advantage because it gives too many men unfamiliar with them the impression that tumors of the bladder are clinically benign whereas all tumors of the bladder are clinically malignant. Unless they are removed by some operative means, they will either directly or indirectly cause the death of the patient.

Papillomata the most common type that show no tendency to infiltrate the bladder wall and microscopically show no evidence of malignancy are considered by some authorities as being benign growths. Cysts of the bladder fibromata, and myomata are so rare as to require no more than mention.

In benign tumors Hagner advises excision of the growth with the operating cystoscope followed by cauterization or high frequency cauterization by the Oudin current according to the method of Beer.

He divides malignant tumors into sarcomata and

carcinomata the latter being most common. As to frequency of malignant tumors of the bladder in relation to those in other parts of the body some authors give 39 per cent others as much as 76 per cent. There are two varieties (1) primary and (2) secondary through metastasis from adjacent organs.

Persistent hæmaturia pain—which is totally absent in some cases—and the finding of fragments of the tumor in the urine are given as symptoms of this condition accompanied naturally with the usual train of symptoms seen with malignant growth anywhere in the body.

Hagner has previously reported 4 cases operated upon for bladder carcinomata. To these he adds a new case. The surgical treatment is palliative and radical.

Palliative treatment consists of (1) the Oudin current (2) suprapubic cystostomy and removal of the growth without extirpation of the bladder wall followed by cauterization (3) suprapubic cystostomy for drainage only in inoperable cases (4) double nephrotomy with ligation of the ureter or drainage in the flank by ureterostomy.

Radical treatment consists in (1) total extirpation of the bladder (2) excision of the bladder wall with the tumor mass—when the base of the bladder is involved this is best done by intraperitoneal operation.

The author describes an operation for tumors involving the fundus or lateral wall of the bladder as follows. The bladder is irrigated and if bleeding adrenalin 1:10,000 is instilled and allowed to remain 5 minutes. The bladder is then distended with salt solution and a Nitze cystoscope introduced and held by an assistant while suprapubic incision is made. The bladder is exposed in the usual way. Hagner thought that at this stage it might be possible to illuminate the bladder with the cystoscope to outline the tumor mass by transmitted light. This he was able to do. The growth is then inspected through the cystoscope the cystoscope being held by the left hand with the right hand a threaded needle is pressed on the fundus of the bladder and the dimpling caused thereby is readily seen through the cystoscope. The needle is first carried to the right and then to the left of the growth at a sufficient distance to give a margin of healthy tissue. A suture is also placed in the lower border of the field. The vesical wall is then incised around the inner side of three traction sutures the portion of the wall to be removed being clamped as the incision advances. The bladder wall containing the growth is lifted up by a clamp and held by an assistant the fluid left in the bladder is aspirated with a syringe and the bladder cavity is packed with gauze. If the parietal peritoneum is to be removed (and he feels sure it is adherent to the bladder wall that should be) the incision in the bladder wall is then carried upward into the peritoneal cavity and the portion of the peritoneum covering the growth is removed. The bladder and peritoneal

wounds are then closed by two rows of chromic gut and a suprapubic drain being left in the bladder.

Of Hagner's eight cases of bladder malignancy three have been operated upon by the above method without a death. H. W. E. WALTHER

Chute A. L. Cancer of the Bladder. *Boston M & S J* 94 Oct 745 By Surg. Gynec & Obst.

Chute calls attention to the relatively small proportion of cures in cases of malignant disease of the bladder. When these cases are reviewed it is evident that the cases that remained without recurrence for a long time were not necessarily cases on which the most radical and careful operation had been done. The cure of a case appeared to depend largely upon whether the disease was still confined to the bladder in cases where it was not it seemed necessary to do very extensive dissection of the lymphatics that took their origin in the bladder to prevent recurrence. In about one-third of the author's cases malignant disease began near the bladder outlet. In order to remove the disease locally it would probably be necessary to perform a total cystectomy as well as a dissection of the pelvic lymphatics.

Shoenberger F. J. and Schapiro S. W. Application of Radium in the Bladder for Carcinoma. Report of Two Cases. *J Am M As* 94 Jan 852 By Surg. Gynec & Obst.

In the first case a patient suffering from hematuria cystoscopy showed a tumor the size of an English walnut situated in the trigon midway between its center and the opening of the left ureter. The tumor appeared to be friable. The right ureter was obstructed with some urine escaping. Microscopic examination of a section of this metastatic growth proved to be carcinomatous. In the right inguinal region there was a mass the size of an orange which was hard and immovable and extended down into the pelvis.

A tube containing 15 mg. of radium was attached to the lower end of a Freyer tube which was introduced into the bladder after a suprapubic cystotomy and was brought in direct contact with the tumor and allowed to remain there for twelve hours. The same tube of radium after removal from the bladder was buried in an incision in the metastatic growth and allowed to remain in place for twelve hours. Recovery was uneventful except for attacks of pyrexia beginning 48 hours after the operation and lasting for three days and recurring at the end of a week. Three such attacks occurred. Cystoscopy two months after operation showed that the vesical tumor had entirely disappeared and the mucous membrane of the bladder appeared normal. Both ureteral openings were obstructed. The patient died six months after operation from general cachexia and hydronephrosis due to obstruction of the ureters by metastatic growth in the pelvis.

In the second case the patient complained of frequency of urination day and night for 15 months

for three months had had pain in the region of the bladder and perineum and had lost 40 lb. in three months. Cystoscopy shows a large bleeding tumor slightly to the left of the left ureteral orifice. There was also a large eroded tumor at the site of the prostate. The tumor at the left ureteral opening was removed and was found to be the size of an egg. The smaller tumor on the right side was also removed. A V-shaped section was removed from the prostatic tumor thus providing better drainage through the urethra. The same procedure in the use of radium was used as in the first case. The bladder was closed in three weeks. Pyrexia occurred as in the previous case. The patient gained 26 lb. in two months. Cystoscopy three months later showed the bladder mucosa apparently normal. The surfaces from which the tumors had been removed appeared as small pale depressed areas. Rectal examination showed the prostate greatly diminished in size and of normal consistency. There were three ounces of residual urine. H. A. KRAUS

Englander S. A Review of Posterior Urethroscopy. *Urol & Cutis Rev* 914 x m 580 By Surg. Gynec & Obst.

There has been a great advance in the knowledge of the normal and pathological anatomy of the urethra since the invention of the irrigating and the air inflating urethroscope.

In the normal urethra there may be located through the urethroscope the sphincter, the prostate, the openings of the ejaculatory ducts, the verumontanum, the utricle, the urethral orifice and the pars membranacea. Normally the orifices of the ducts are not visible but when inflamed they may appear as dark red spots or dots with protruding mouths.

In the pathological urethra there may be located through the urethroscope a swollen highly reddened mucous membrane, infiltrations, granulations, papillomata, a large and congested colliculus, polypoid cysts, scar tissue, ulcers and tumors.

It is particularly in cases where the pathological area is of limited extent that posterior endoscopy is of great value and where local application of concentrated silver or tincture of iodine to granulations or to swollen and edematous colliculus or to ulcers produce excellent results or where the cautery is applied to these same conditions or to scar tissues or pathological bands or adhesions that may be present or to median lobe obstruction or in the application of the curette to polypoid masses about the sphincter or wherever they may be.

Gerraghty described a case in which a gonorrhoeal discharge persisted until treatment of the utricle cleared it up. Underhill recently described a case in which the urethroscope showed several cystic bodies near the internal sphincter. The patient suffered from a gleet discharge and fleeting erections also from pollutions. Under appropriate treatment and cauterization of the cystic bodies the patient improved. Walsh described two very interesting cases revealed by posterior endoscopy. In

the first case the verumontanum instead of being an elevation was found divided into two unequal parts in the second case the ejaculatory ducts seemed to be at either end of a band of divided scar tissue Both cases recovered under appropriate treatment

The author reports a number of cases of chronic posterior urethritis and sexual disorders in which location of the lesions was made possible by posterior endoscopy and treatment was applied directly with good results
THEO DROZDOWITZ

GENITAL ORGANS

Hawkins J. A.: Two Interesting Cases of Traumatic Displacement of the Testicle *Urol & C* 1 Rev 1914 LXV 602

By Surg Gynec & Obst

Hawkins first case a man aged twenty years had been struck by a locomotive and suffered severe injuries to the pelvis and bony girdle Examination showed that the left testicle had been displaced upward with associated rupture of the fibers of Poupert's ligament The testicle was replaced into the scrotum and fixed there Recovery followed

The second case was a boy of eleven years who had been struck by a trolley car and thrown against the curb On examination a lacerated wound was found over the penis only the skin being left The body of the penis was found in a wound over the pubes its dermal covering torn loose at the corona The right testicle was in the inguinal canal The anal was opened and the testicle replaced into the scrotum
J S ENSTADT

Pedersen V. C. Teratoma Testis with Tubercle Bacilli in the Urine *N I M J* 94 00

By Surg Gynec & Obst

Pedersen adds one more case to the list of tumors of the testicle which a pathological examination showed to be of a complex structure

In addition to tumors of the testicle he also found tubercle bacilli in the urine and on the theory that the case was tuberculous, castration was done the cord pulled out as far as possible and the ends cauterized The patient is still in good health

On examination of the specimen the author found a node in the testicle proper and not in the epididymis no infiltrations were found in the epididymis or vas The neoplasm consisted of an outer whitish mass containing a cavity of serous fluid and a brownish or blackish central mass of prominence and great hardness The author made a probable diagnosis of teratoma of the testicle and the case was then referred to Prof Ewing who reported that on section the tumor was composed chiefly of fibromuscular tissue containing many small cavities lined by cylindrical epithelium probably representing ectoderm however no traces of ectoderm were seen The tumor was adult in

type and relatively benign and the prognosis was good Pedersen says he will report further on the case
A C STOKES

Lespinasse V. D. The Relief of Sterility by Means of Permanent Epididymostomy with the Formation of an Artificial Sac for the Storage of the Sperm *J Am M Ass* 1914 LXVI 1916

By Surg Gynec & Obst

This operation is designed to cure cases of male sterility due to inoperable closures of the vas deferens and ejaculatory duct The operation consists of making a non-absorptive sac by using a portion of the tunica vaginalis testis with Thiersch grafts A fistula is established from the head of the epididymus into this sac This fistula may be established by simply cutting off the tops of the epididymal tubules or by threading a hair into the lumen of the epididymus tubes and letting it cut out

The sac then fills with spermatozoa whenever desired this sac can be tapped and the spermatozoa withdrawn into a syringe and injected into the uterus

Binney H. Cancer of the Prostate *Best & M & S J* 1914 LXVI 745

By Surg Gynec & Obst

The recent development of prostatic surgery has brought out the fact that carcinoma of the prostate is more common than formerly believed While Albarran in 1900 stated that cancer occurred in 14 per cent of all cases of prostatic enlargement Young in 1913 reported 28 per cent in 100 cases Other authors report lower percentages and it is probable that the proportion is from 15 to 20 per cent of all cases

The best description of the development of carcinoma is given by Young and Gandy according to whom the process starts beneath the posterior capsule and sooner or later invades the lymphatics about the ejaculatory ducts passing upward beneath the trigone and into the space between the seminal vesicles thence it invades the pelvic lymphatics iliac glands etc and may form metastases in a variety of locations While the gross appearance is characteristic sometimes the use of the microscope is necessary for diagnosis

Symptoms in the first stage when the growth is wholly within the prostatic capsule may be slight amounting to a slight frequency or local pain Later with involvement of the capsule and the prostatic nerves reflex pains arise which should arouse suspicion of the trouble In the third stage the urinary symptoms of obstruction plus the effects of metastases in some part of the body will be present

The only hope of relief lies in the early recognition of the disease in its first stage unless Young's radical operation is done which is always followed by permanent sterility If the disease has not broken through the prostatic capsule conservative operation offers hope of cure

The diagnosis is made by rectal touch in some cases with the aid of the cystoscope

Differential diagnosis from other conditions is usually easy but occasionally prostatic calculi can be distinguished only by the X ray

A case is reported in which the diagnosis was made early a perineal operation performed and at the end of five years the patient is still in good health

Operation in the second and third stages may be indicated for the removal of the obstruction or for suprapubic drainage of the bladder The reported results of the use of radium are not yet convincing as to its efficacy in prostatic carcinoma

Langhear E Prostatectomy under Local Anæsthesia *U of S Colum Rev* 9 4 x 11 603
By Surg Gynec & Ob t

Langhear reports very satisfactory results in prostatectomy under local anæsthesia Three hours before operation the patient receives hypodermically 0.25 gr morphine and 0 gr hyoscine hydrobromide This is repeated one and one half hours before operation The deep parts are infiltrated with one per cent urea and quinine hydrochloride which has been boiled for twenty minutes This treatment is repeated one half hour before operation then the superficial injection of one dram of 1 per cent solution of novocaine is made directly under the skin Langhear states that besides avoiding the untoward effects and complications of ether or chloroform narcosis this method affords less post operative pain and brings convalescence far quicker J S FISCUS LOR

MISCELLANEOUS

Murphy J B and Kreuscher P H Vaccine Treatment of Diseases of the Genito Urinary Tract and Their Sequelæ *Interst M J* 19 4 x 1214
By Surg Gynec & Obst

The authors state that the general indications for the use of vaccine in urinary infections are cases without obstruction to urinary or prostatic drainage Their technique is as follows

Enough culture tubes from 0 to 5 as a rule and three bouillon flasks are inoculated and the vaccine made from the mixed first growth on these tubes

For urethral inoculations a very short urethroscope is passed into the urethra so growth from prostatic infection the prostate is expressed a catheter 0 tube is passed into the urethra and the material taken through the tube or the patient urinates to get as through the tube and the inoculation is made from this urine

In some cases the patient's own blood is mixed with the medium the idea being that the organisms will grow better on this medium than on blood from some other individual The usual dose is around 100 million repeated at from 3 to 8 days intervals

In the acute infections vaccines are recommended as adjuncts to surgery In the chronic cases the vaccines are of great value Success with them depends upon (1) the ability to isolate the germ (2) the virulence of the infection (3) the localization

of the disease (4) the individual response of the patient to the treatment and (5) the origin of the infection

The cases treated are of two types (1) Local infection of the kidney bladder and urethra (2) metastatic infections in the bones joints and distant organs The results in the local infection have been good but in the metastatic cases it has been found very difficult to obtain a vaccine

The authors recommend that the blood picture be watched in all cases under vaccine therapy and they also recommend that vaccine be used intravenously They state that two organisms may be present in the original infection After the first lot of vaccines has been used smears made will show that one of these organisms has almost if not entirely disappeared If not a new inoculation is made

Their conclusions are as follows

1 Autogenous vaccines should be used in all cases when it is possible to obtain them but there are cases in which there is a positive indication for combined vaccines

2 Vaccines have failed in many instances because of the almost insurmountable difficulties in obtaining the proper organism from the genito-urinary tract and from insufficient drainage

3 Vaccine must not be expected to reconstruct tissues organs or joints that have been destroyed by known or unknown pathogenic organisms If they are to be effective and prove prophylactic against such destruction they must be timely and intelligently administered

4 Vaccine should always be used but up to the present time there is no justification in neglecting other known methods of combatting infections of the genito urinary tract and their sequelæ

V D LESTER M D

Williams W W The Gonococcus Complement Fixation Test *Interst M J* 19 4 x 198
By Surg Gynec & Obst

The author gives a clear description of his technique in performing the complement fixation test He uses a polyvalent antigen made up of 28 different strains of gonococci This he found to be slightly more sensitive than the antigen put up by commercial houses He cites a number of cases in which the test was of distinct value and concludes that the test is absolutely specific for the gonococcus and that a positive reaction is always reliable and an indication of a gonorrheal infection somewhere in the body unless the individual from whom the serum was obtained has had gonococcus vaccine treatment or has recently recovered from an infection by that organism

The chief value of the test is in those cases with chronic or ill-defined affections where it is not usually feasible to obtain the organism in means or cultures and in the diagnosis of gonococcus arthritis in which it gives about 100 per cent positive reactions

GORDON G. SMITH

SURGERY OF THE EYE AND EAR

EYE

Faith T Th Prognosis in Squint *Ill o M J*
 914, xxvi 530 By Surg Gynec & Obst

The treatment and outcome of concomitant squint from the standpoint of visual acuity of the squinting eye binocular single vision and paral-
 lelism are discussed. The common practice of refraction watchful waiting and then if there is no improvement operation is the fault of the oph-
 thalmologist.

According to the author lessening accommodative efforts arousing instinct for precise vision and the desire for binocular vision is the proper early treat-
 ment after refraction holding the fixing eye under the influence of atropin and compelling the use of the squinting eye. Along with this method many painstaking schemes are used to develop the more or less amblyopic retina in the squinting eye. Following the coarser objects the amblyoscope is used. If the above results are not satisfactory the only change made is to remove the lens or substitute a weaker one in front of the fixing eye. The author emphasizes the latter treatment in faulty cases where other treatment has failed.

Amblyopic exercises are a waste of time until the squinting eye has gained some in visual acuity. Amblyopia transferred to the fixing eye from the squinting eye is a good omen the author believes. He takes issue with Worth on the continued use of atropin in both eyes with or without correction and says that little harm can come from it.

Cases of under 4 years duration offer the best prognosis if there is no outward limitation and even cases of 4 to 6 years standing except that they take longer. Even in cases of longer standing results have been obtained by perseverant treatment.

The least successful cases are those that persist in having eccentric fixation in the squinting eye cases that are originally paralytic transformed to concomitant and anisometropic cases in which the difference in refraction amounts to 3 to 4 diopters. Cases of alternating squint never get ideal results although occasionally alternating ones do.

STOVE WALLER, J

Ray V The F traction of Steel and Iron Particles from the Eye by the Electro-Magnet *Lancet*
 Cl 9 4, cm, 479 By Surg Gynec & Obst

From his results obtained by experiment on fresh pigs eyes Ray has practically abandoned the use of the giant magnet in favor of a hand magnet of the Hirschberg type for the removal of magnetizable particles. With an exact X ray localiza-

tion as by the Sweet method the operator is enabled to make an incision large enough to admit the tip almost over or in the immediate vicinity of the foreign body. The author claims that to successfully dislodge a metallic particle it is not necessary to insert the tip into the vitreous in at least two thirds of the cases.

This method has been employed in 100 cases or more without infection or detachment of the retina and with the advantage of no further possible injury to the delicate and vulnerable tissues of the anterior segment.

G D THOMAS

Noble W L The Advantages and Disadvantages of the Intracapsular Cataract Operation, as Practiced by Colonel Henry Smith of India *Ill o M J* 9 4 xx 487
 By Surg Gynec & Obst

The different steps of the technique are described and each one is criticized separately. From Noble's viewpoint the whole procedure is a disadvantage except the preparation of the patient which consists in obliteration of the upper fornix by sliding the brow upward and after lifting the lid with speculum a very thorough flushing of the sac is possible. As regards the corneal section the advisability of grasping the conjunctiva at the limbus rather than at the attachment of a tendon is questioned further the start of the incision is a good one but it has been in use for 25 years and is not original.

Issue is taken as regards this section being at right angles to the corneal surface as there is no section that can be at right angles the one that approaches it nearest is the one that is closest to the limbus. Smith's leaves the limbus immediately hence could not be lifted.

The author thinks that Smith's contention that the presence of capsule and cortical substance in the eye is usually followed by iridocyclitis is not well taken as this would imply that in the Smith operation there is no iridocyclitis.

Both the cataract and some of the results of the iridectomy are criticized strongly not only on account of the colobomas resulting but also on account of the trauma to the epithelium of the cornea produced by the outer blade of the forceps. Smith's fear of rupturing the capsule is given as the excuse for the unique procedure of putting one blade of the iris forceps in the anterior chamber and the other one out.

The expression of the lens is good but the force used is beyond that used in the ordinary operation.

To refute the claim that the Smith operation is free from secondaries and iridocyclitis histories

from operated cases by three men are quoted the results if correct certainly do refute it in a small measure
 SYDNEY WALKER JR

Snell A C: A Case of Extensive Accidental Corneal Splitting *Arch Ophth* 1914 21 620
 By Surg Gynec & Obst

Snell replaced a torn corneal flap 3 mm wide and 0.5 mm in thickness extending from limbus to limbus, after cleansing same with boric solution. He placed a single suture through to the apex of the torn flap adjacent corneoscleral tissue and conjunctiva. By the fifth day the reunited flap, with edges elevated had swollen and turned bluish gray blood vessels having formed at the apex and in the corneal area to the extent of 3 mm. At the end of the second week a cilium vertical with root directed upward was discovered in the anterior chamber. The pupil was slightly oval horizontally the lens cataractous above with a crescentic area in the lower quadrant of the pupil remaining clear. In less than three months the blood vessels had disappeared with one exception visible by loupe dense haziness at the upper end of the flap had cleared leaving the cornea smooth and flat with normal appearance excepting for an opaque area in the center of the flap. The lens was clear below the cataract being limited to the upper anterior half. The vision was 20/300
 C A MAURY

McReynolds, J O: Some of the Newer Operations for Glaucoma *Texas St J Med* 1914 219
 By Surg Gynec & Obst

In a discussion of the various operations for glaucoma credit is given to a number of men among whom are Smith Lagrange and Elliot the latter's operation being discussed in detail.

The author describes his corneal wedge for splitting the cornea which has been adopted by Elliot. It is in the form of an angular keratome. He has also devised a conjunctival forceps for controlling the flap. Other trephines are discussed but he thinks Elliot's is the nearest to perfection.

Corneosclerotomy with the aid of a thread and knife also the method of substituting a sharp hook for the thread are discussed.

Strong emphasis is laid on the post operative dangers of sympathetic ophthalmia following operations about the ciliary body and a large number of these cases are forecasted for the future following the most approved operations.

SYDNEY WALKER JR

Burleson J H: Some Clinical Observations Regarding the Etiology of Glaucoma *Texas St J Med* 1914 218
 By Surg Gynec & Obst

Some new etiologic factors of glaucoma are brought up among which are pelvic disorders chronic urethritis, and choretic conditions. From the limited number of cases however the author admits that he cannot hold them as positive factors at this time.
 SYDNEY WALKER JR

Gradle, H S: The Treatment and Indications for Operation in Glaucoma Simplex. *Wiss Med J* 1914 211 24
 By Surg Gynec & Obst

The author frankly states that the cause of glaucoma simplex is still unknown he is unwilling to accept the theory of a close relationship between intra ocular tension and blood pressure.

The influence of massage upon the glaucomatous eye is discussed at length and its prognostic value in the disease is mentioned. The value of the therapeutic measures employed is to be judged from three standpoints (1) the curve of intra ocular pressure tonometrically registered (2) the patency of the intra ocular outlets measured by the intra-ocular tension before and after three minutes massage of the eyeball and (3) the visual fields.

The therapeutic attacks are divided into three periods two weeks of intensive treatment to be carried out in the hospital two weeks of moderate treatment and two weeks of minimum treatment consisting in the local instillation of pilocarpine every other day and a return to the former mode of life. The three prognostic factors must be carefully watched and the ultimate treatment decided upon by their behavior during these periods.

In case operative interference becomes necessary the author advocates the operation of cyclodialysis. If unsuccessful the same operation may be repeated without harm to the patient. Sclerotomy of which type of operation trephining is the best known should be reserved as an operation of last resort because of the dangers of late infection.

The author divides operations aimed at glaucoma simplex into three types (1) those opening the normal intra-ocular outlets as iridectomy is supposed to open the canal of Schlemm, (2) those opening new intra ocular outlets as the cyclodialysis opens a path to the suprachoroidal spaces and (3) those opening extra-ocular outlets as trephining. The last class is a dangerous type of operation and should be used only as a last resort.

Medalla, L S: Vaccine Therapy in Eye Diseases of Bacterial Origin *Bull N Y Med Soc J* 1914 211 6
 By Surg Gynec & Obst

Medalla gives a brief résumé of the literature to date and adds his personal observations covering a period of seven years. The cases treated by him are grouped according to the clinical diagnosis. He gives the details of 95 cases treated the bacteriological findings and results. His conclusions are:

Vaccines will yield results such as could not be expected from the ordinary method of treatment. 1. Autogenous preparations should be used if possible before permanent damage to the tissues occurs.

3. Repeated paracentesis is a valuable adjunct in cases of hypopyon keratitis small and oft repeated doses yield better results than large doses as a prophylactic measure the value of vaccines is recognized.
 G D THEOBALD

SURGERY OF THE EYE AND EAR

EYE

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1914 LXVI 530 By Surg. G. C. & Obst.

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The expression of the lens is good but the force used is beyond that used in the ordinary operation.

To refute the claim that the Smith operation is free from secondaries and iridocyclitis histories

THROAT

Shambaugh, G. E. The Recognition of Chronically Infected Faucial Tonsils *Ill. nos. M. J.* 1914 xvi 56 By S. g. Gynec & Obst

Many patients suffer with a systemic infection which owes its origin to foci of infection in the faucial tonsils revealed by the history of attacks of tonsillitis, or is recognized by a careful examination of the tonsils. In all cases of chronic systemic infections the faucial tonsils should always be under suspicion and in the absence of other foci one should not hesitate to consider removal of the tonsils provided the systemic infection is severe enough to warrant the operation.

ELLEN J. PATTERSON

Burckhardt, G. F.: The Function of the Faucial Tonsils and the Indications for Their Removal *Ill. nos. M. J.* 9 4 vi 317 By Surg. Gynec & Obst

A perfectly normal tonsil has a function as a protective organ the same as any other lymph gland but when its condition becomes pathological this function becomes perverted and it becomes a dangerous portal for the entrance of bacteria and their toxins. The indication is for removal of the tonsil thus closing a portal for the entry of infectious material into the circulation.

ELLEN J. PATTERSON

Cott, C. C. Inflammatory Tonsillar Disease and Its Care *J. Ophth. & Otol. Laryng.* 9 4 vi 356 By S. rg. Gynec & Obst

The author's conclusions are:

1. Although acute diseases of the tonsil may be cured of the attacks a recurrence is almost certain because of the structure of the tonsil.
2. To protect the body from general diseases caused by germs which enter through the diseased tonsils and to prevent absolutely recurrent attacks of tonsillitis enucleation is necessary.
3. The tonsil is a simple lymph node and therefore when removed is not missed in the body functions instead a port of entry of bacteria is closed.

4. Its complete removal is accomplished by several methods of which the author prefers Beck's when it can be used and the St. John's dissection methods in all other cases. OTTO M. ROTT

Archibald, A. Tonsillectomy in the Treatment of Chorea *St. Paul M. J.* 9 4 6 By Surg. Gynec & Obst

The practice of performing tonsillectomy in the treatment of chorea is based (1) upon the close relationship which exists between chorea and rheumatism and (2) upon experimental data showing that injection into a dog of streptococci removed from the tonsils of a patient having chorea produced choreic symptoms in the dog within twelve hours.

Concerning the clinical relationship between the

two diseases—chorea and rheumatism—the author records the following points of evidence as observed in the cases examined at the Mayo Clinic:

1. The frequency of a previous history of tonsillar disease in rheumatism and in chorea.
2. The frequent occurrence of the two diseases together or at different times in the same individual.
3. The liability of the two diseases being complicated by cardiac affections.

Archibald gives a report of seven cases of chorea treated by removing the tonsils and summarizes as follows:

1. It is important to make a careful examination of the upper air passages in nervous children.
2. The close relationship between chorea and the rheumatic infections is confirmed by clinical observations and by bacteriological investigations.
3. Diseased tonsils are frequently associated with chorea and should be dealt with in its treatment.
4. Rapid cessation of choreic symptoms has occurred in the author's experience after tonsillectomy performed during the acute stage.

OTTO M. ROTT

Jackson, C. The Direct Method of Intralaryngeal Operation *J. Am. M. Soc.* 19 4 1st 1918 By Surg. Gynec & Obst

The direct method is the only one by which the larynx of children can be operated on and while there are difficulties to be surmounted which require prolonged and constant practice all movements are under control of the eye and the operator does not have to develop the ability to move his forceps backward when the image appears to require the forward direction and to substitute for diagonal movement a reversed anteroposterior with a true lateral movement as in the indirect method. No one method is applicable to all cases and the operator must decide which is best suited to the case in hand.

The author operates under strictly aseptic conditions using local anesthetic for adults and none for children and with children in the recumbent position while adults under local anesthetic are in the upright position. ELLEN J. PATTERSON

Johnston, R. H. Straight Direct Laryngoscopy, Bronchoscopy and Esophagoscopy *Am. J.* 5 2 19 4 xvi 387 By Surg. Gynec & Obst

An aspirated foreign body usually gives rise immediately to a paroxysm of coughing after which symptoms may subside or there may be dyspnoea, cyanosis, expectoration of blood-stained mucus and in cases of long duration symptoms resulting in a diagnosis of tuberculosis.

Diagnosis is made by the history and physical diagnosis with the assistance of the X-ray or fluoroscope the prognosis is good if the patient is in the hands of a skilled bronchoscopist.

The indications for tracheobronchoscopy are for the removal of foreign bodies for diagnosis for treatment of diseased conditions or for the re-

SURGERY OF THE NOSE, THROAT, AND MOUTH

NOSE

Babbitt J A: The Reconstruction of the Nasal Septum after the Submucous Operation *J Am M Ass* 914 12 1822
By Surg Gynec & Obst

A submucous resection properly and completely done with the removal of bulging extremities of nasal tubercles ridge and vomer removal of all posterior pressure leaving a superior margin of cartilage and bone to support the flexible nose and prevent drooping will reconstruct a new fibrous perfect functional septum even in its vasomotor relations

Perforations must be avoided and undue pressure with pads and splints as areas in which mucous tissues are lost and replaced by squamous epithelium will probably crust allow occasional intermittent hemorrhage and irritate the nose

ELLEN J PATTERSON

Skiffern R. H.: Preturbinal Operation on the Maxillary Sinus *Laryngoscope* 9 4, XII 90
By Surg Gynec & Obst

The author claims as advantages for his method of operating that the sinus can be inspected directly and local applications made under vision to any diseased areas which have proved resistant to treatment drainage is at the lowest point reached through the nose the turbinate remains unharmed the operation is painless and the period of healing shortened

After cleansing the nasal cavities anesthesia is secured by the application of a 20 per cent solution of cocaine and by injections of novocaine and adrenalin A spindle shaped piece of mucous membrane is removed in front of the inferior turbinate by two incisions extending through all the tissues to the bone and the crista pyriformis is exposed With a chisel forceps and an electric trephine the antrum is then opened flushed out inspected curetted and packed loosely with iodoform gauze The gauze is removed in forty eight to seventy two hours and replaced every second day for two weeks ELLEN J PATTERSON

Beck J C.: Chronic Focal Infection of the Nose Throat Mouth and Ear *J Am M Ass* 9 4 1914, 1636
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The author groups the most frequent causes of chronic focal infection as follows

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and mastoid cells tonsils and adenoids salivary glands and ducts pulmonary alveoli and bronchi gall bladder and ducts pancreas and ducts appendix, uterus and fallopian tubes prostate and seminal vesicles pelvis of the kidney ureter bladder and urethra skin glands, as sweat and sebaceous and mucous glands

2. Tubular structures or ducts gastro-intestinal tract and tear duct

3. Glandular or parenchymal tissue lymphatic glands compound lymph-glands, as Peyer's patches, lingual tonsil liver pancreas, spleen muscles ductless glands as thyroid adrenals, thymus, and hypophysis

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5. Serous membranes peritoneum pleura pericardium synovia perineurium and dura

6. Pathologic tissue cavities in teeth alveolar or apical necroses and death of pulp with or without alveolar fistula recession of gums as pyorrhea abscess or necrosis elsewhere in the body infection about the nails and hair follicles

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The reason for removing the tonsils in preference to any other structure is that with properly carried out technique there is less danger and inconvenience to the patient without losing or interfering with some functioning structure

OTTO M. ROTT

ment of suppurative affections of the ear reference is made to Haslin's report of having stopped the discharge in 25 out of 33 cases of chronic purulent otitis media treated but as the time limit of two years has not elapsed since the apparent cure he does not pronounce a definite result.

6 Indications for operation in labyrinthine disease as set down by Leidler are as follows

(a) Every diseased labyrinth dependent upon a purulent otitis whether acute or chronic combined with a labyrinthogenous intracranial complication must be operated upon at once. Of these complications the lightest form is represented by a persistent headache on the side of the affected ear.

(b) Every labyrinth which shows involvement as a result of an acute or chronic otitis with symptoms of acute diffuse labyrinthine suppuration advanced nystagmus of the third degree toward the healthy side and lack of response to the turning test must be operated upon at once if the temperature is more than 38° C or the symptoms do not abate within four days.

(c) A labyrinth which as the result of an acute or chronic otitis is completely destroyed functionally and does not comply with the indications just given must at once be operated upon in connection with the radical opening of the antrum in case a spot in the bony capsule shows a pathologic opening into the per- or endolymphatic space (tustula cholesteatoma, sequestra tumor etc.) or where there are persistent symptoms of irritation of the labyrinth such as dizziness nystagmus or vomiting.

7 On the subject of brain abscess a paper of Sharpe is referred to particularly that part warning against the danger of a blind hunting for the abscess with the needle and the other suggestion relative to performing the operation for decompression while waiting for the abscess to localize.

8 Preysing Uffenorde and Brieger's works on the subject of meningitis are cited.

Preysing gives the following indications for treatment (a) In meningitis following acute otitis lumbar puncture or according to the circumstances lumbar drainage. The dura should not be opened.

(b) In meningitis following chronic otitis without labyrinthine complications or with labyrinthine irritation symptoms the radical operation should be performed and the channel of infection most carefully removed. If the brain is found to be healthy in every particular treatments to be the same as for meningitis following acute cases which are treated by lumbar drainage.

(c) In chronic cases where an extradural abscess is found and the symptoms do not disappear after emptying it if the dura in the vicinity appears necrotic or in a wider course granulation should not be done but it is warrantable to incise the dura and seek for subdural necrosis.

(d) In chronic otitis existing with clear labyrinthine symptoms the radical operation is to be made and where there is a fistula resection of the inner ear is to be carried out. If dural changes are then discovered according to Wittmaack and Stacke the dura and the posterior fossa in the direction of the internal auditory canal are to be opened as far back as the sinus and drained. Whether an otherwise entirely healthy dura is to be opened or further operation performed will depend upon the result of the operation on the temporal bone.

(e) If in the radical operation for chronic otitis with meningeal symptoms there is found a distinct dural fistula with drainage of pus a thorough broad opening in the temporal bone is to be advised and the diseased dura resected and drained.

Uffenorde and Brieger agree with Preysing that the present stage of our knowledge warrants only the cleaning out of the original focus of the disease and then repeated lumbar puncture. None of the authors are enthusiastic over drainage by incision into the dura.

9 The symptom complex described by Barany and which he regards as characteristic of increased pressure in the cisterna pontus lateralis (the cisternae of the cerebello pontine angle) is as follows (1) dizziness (2) tinnitus (3) difficulty in hearing suggestive of disease of the inner ear often false notes on the diseased side beginning directly back of the ear and radiating to the occiput and also forward (4) tenderness directly behind the mastoid over the exit of the emissary vein and (5) outward deviation of the hand on the diseased side.

Otto M. Roth

Wrigley F. G. A Case of Temporosphenoidal Abscess Following Chronic Middle Ear Suppuration. *Med Chir Manchester* 914 lx o. By Surg. Gynec. & Obst.

The author reports the case of a girl of sixteen years with a history of copious foul discharge from the right ear for seven years following scarlet fever and headache confined to the right temporal region. At radical mastoid operation a loose necrotic plate of bone was detached from the roof of the antrum thus exposing the dura of the middle fossa. No sign of intracranial tension was observed.

After operation the headache and copious discharge continued the mental state was normal there was no ptosis nystagmus or optic neuritis the reflexes were normal as pus was observed issuing through the opening in the roof of the antrum a temporosphenoidal abscess was diagnosed.

The abscess was evacuated and recovery was an eventful except that at two dressings two or three drams of cerebrospinal fluid escaped from the drainage tube probably from the lateral ventricle.

ELLEN J. F. T. 1920

SURGERY OF THE NOSE, THROAT, AND MOUTH

NOSE

Babbitt J A : The Reconstruction of the Nasal Septum after the Submucous Operation *J Am Med Ass* 9 4 km 8 3

By Surg Gyn & Obst

A submucous resection properly and completely done with the removal of bulging extremities of nasal tubercles, ridge and former removal of all posterior pressure leaving a superior margin of cartilage and bone to support the flexible nose and prevent drooping will reconstruct a new fibrous perfect functional septum even in its vasomotor relations

Perforations must be avoided and undue pressure with pads and splints as areas in which mucous tissues are lost and replaced by squamous epithelium will probably crust allow occasional intermittent hemorrhage and irritate the nose

ELLEY J PATTERSON

Skullern R H : Pre-turbinal Operation on the Maxillary Sinus *Laryngo scope* 9 4 xxi 90

By Surg Gynec & Obst

The author claims as advantages for his method of operating that the sinus can be inspected directly and local applications made under vision to any diseased areas which have proved resistant to treatment drainage is at the lowest point reached through the nose the turbinate remains unharmed the operation is painless and the period of healing shortened

After cleansing the nasal cavities, anesthesia is secured by the application of a 2 per cent solution of cocaine and by injections of novocaine and adrenalin A spindle shaped piece of mucous membrane is removed in front of the inferior turbinate by two incisions extending through all the tissues to the bone, and the crista pyriformis is exposed With a chisel forceps and an electric trephine the antrum is then opened flushed out inspected cut etted and packed loosely with iodoform gauze The gauze is removed in forty eight to seventy two hours and replaced every second day for two weeks ELLEY J PATTERSON

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and mastoid cells tonsils and adenoids salivary glands and ducts pulmonary alveoli and bronchi gall bladder and ducts, pancreas and ducts appendix uterus and fallopian tubes prostate and seminal vesicles pelvis of the kidney ureter, bladder and urethra skin glands as sweat and sebaceous and mucous glands

2. Tubular structures or ducts gastro intestinal tract and tear duct

3. Glandular or parenchymal tissue lymphatic glands compound lymph glands as Peyer's patches lingual tonsil liver pancreas spleen muscles, ductless glands as thyroid adrenals thymus and hypophysis

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The following formula is laid down as to the degree of chronic focal infection

	Per cent
From tonsils	20
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From appendix	0
From gall bladder and other recesses	0
Total degree of infection	50
Resistance	50

Using the above formula as a basis of comparison, the author tells of the restoration of normal health, and resistance made possible by tonsillectomy viz removal of the chronic nasal infection by complete tonsillectomy will leave only about 30 per cent of chronic focal infection This remainder will be rapidly eliminated by the addition of autogenous vaccines and other medicinal hygienic and dietetic measures In other words by removing a definite focal point of chronic infection—the tonsils—the resistance and healing power of the patient is given opportunity to recuperate, and the individual is thus enabled to destroy other focal points of chronic infection and put the system in a condition to ward off future attacks

The reason for removing the tonsils in preference to any other structure is that with properly carried out technique the procedure is less dangerous and more convenient to the patient without losing or interfering with some functioning structure

OTTO M ROTT

THROAT

Shambaugh, G. E. The Recognition of Chronically Infected Faucal Tonsils III M J 1914 xxv 526 By Surg Gynec & Obst

Many patients suffer with a systemic infection which owes its origin to foci of infection in the faucal tonsils revealed by the history of attacks of tonsillitis or is recognized by a careful examination of the tonsils. In all cases of chronic systemic infections the faucal tonsils should always be under suspicion and in the absence of other foci one should not hesitate to consider removal of the tonsils provided the systemic infection is severe enough to warrant the operation.

ELLEN J. PATTERSON

Burckhardt, C. F. The Function of the Faucal Tonsils and the Indications for Their Removal III no 3 M J 1914 x 1517 By Surg Gynec & Obst

A perfectly normal tonsil has a function as a protective organ the same as any other lymph gland but when its condition becomes pathological this function becomes perverted and it becomes a dangerous portal for the entrance of bacteria and their toxins. The indication is for removal of the tonsil thus closing a portal for the entry of infectious material into the circulation.

ELLEN J. PATTERSON

Cott, C. C. Inflammatory Tonsillar Disease and Its Care. J Ophth & Oto Laryngol 9 4 356 By Surg Gynec & Obst

The author's conclusions are:

1 Although acute diseases of the tonsil may be cured of the attack a recurrence is almost certain because of the structure of the tonsil.

2 To protect the body from general diseases caused by germs which enter through the diseased tonsils and to prevent absolutely recurrent attacks of tonsillitis enucleation is necessary.

3 The tonsil is a simple lymph node and therefore when removed is not missed in the body functions instead a port of entry of bacteria is closed.

4 Its complete removal is accomplished by several methods of which the author prefers Beck's when it can be used and the Sluder or dissection methods in all other cases. OTTO M. RORTZ

Archibald, A. Tonsillectomy in the Treatment of Chorea St P ul M J 1914 6 By Surg Gynec & Obst

The practice of performing tonsillectomy in the treatment of chorea is based (1) upon the close relationship existing between chorea and rheumatism and (2) upon experimental data showing that injection into a dog of streptococci removed from the tonsils of a patient having chorea produced choreic symptoms in the dog within twelve hours.

Concerning the clinical relationship between the

two diseases—chorea and rheumatism—the author records the following points of evidence as observed in the cases examined at the Mayo Clinic:

1 The frequency of a previous history of tonsillar disease in rheumatism and in chorea.

2 The frequent occurrence of the two diseases together or at different times in the same individual.

3 The liability of the two diseases being complicated by cardiac affections.

Archibald gives a report of seven cases of chorea treated by removing the tonsils and summarizes as follows:

1 It is important to make a careful examination of the upper air passages in nervous children.

2 The close relationship between chorea and the rheumatic infections is confirmed by clinical observations and by bacteriological investigations.

3 Diseased tonsils are frequently associated with chorea and should be dealt with in its treatment.

4 Rapid cessation of choreic symptoms has occurred in the author's experience after tonsillectomy performed during the acute stage.

OTTO M. RORTZ

Jackson, C. The Direct Method of Intra-laryngeal Operation J Am M Ass 9 4 1918 By Surg Gynec & Obst

The direct method is the only one by which the larynx of children can be operated on and while there are difficulties to be surmounted which require prolonged and constant practice all movements are under control of the eye and the operator does not have to develop the ability to move his forceps backward when the image appears to require the forward direction and to substitute for diagonal movement a reversed anteroposterior with a true lateral movement as in the indirect method. No one method is applicable to all cases and the operator must decide which is best suited to the case in hand.

The author operates under strictly aseptic conditions using local anesthetic for adults and none for children and with children in the recumbent position while adults under local anesthetic are in the upright position.

ELLEN J. PATTERSON

Johnston, R. H. Straight Direct Laryngoscopy Bronchoscopy and Esophagoscopy Am J S 9 4 vi 387 By Surg Gynec & Obst

An aspirated foreign body usually gives rise immediately to a paroxysm of coughing after which symptoms may subside or there may be dyspnea, cyanosis, expectoration of blood-stained mucus and in cases of long duration symptoms resulting in a diagnosis of tuberculosis.

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Beck J C: Chronic Focal Infection of the Nose Throat Mouth and Ear *J Am Med Ass* 94, Lxx, 636

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The author groups the most frequent types of chronic focal infection as follows

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The practice of performing tonsillectomy in the treatment of chorea is based (1) upon the close relationship existing between chorea and rheumatism and (2) upon experimental data showing that injection into a dog of streptococci removed from the tonsils of a patient having chorea produced choreic symptoms in the dog within twelve hours.

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Jackson C. Th.: Direct Method of Intralaryngeal Operation. *J. Am. M. A.* 914 111 918 By Surg. Gynec. & Obst.

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The indications for tracheobronchoscopy are for the removal of foreign bodies for diagnosis for treatment of diseased conditions or for the re-

removal of growths. It should never be undertaken without first having subjected the patient to a thorough physical examination.

LEWIS J. PETERSON

Levy R.: Suspension Laryngoscopy in Children

Laryng. 1914 XVI 916

By Levy R. (New York & Co.)

The advantages of suspension laryngoscopy are that an unlimited view is obtained of all parts of the hypopharynx, larynx and the upper parts of the trachea and esophagus. Both the operator's hands are free to manipulate instruments; there is no danger of larynx during operation and no serious local after effects.

The author reports several cases operated upon by him under chloroform anesthesia by suspension laryngoscopy, the ages varying from eight months to twenty-six years.

MOUTH

Bass, C. G. and Johns F. M.: The Specific Cause and the Prompt Specific Cure of Pyorrhea Alveolaris, or Rigg's Disease. Vir. Med. 1914 LVI 941 456 By Levy R. (New York & Co.)

After finding in August 1914 amebæ in a stained specimen of pus from a case of pyorrhea alveolaris the authors secured six other cases the examination of which showed apparently the same species of amebæ. Their close resemblance to the tritameba of amebic dysentery and the marked specific influence of treatment with ipecac and emetine in that disease led them to think that the same effect might be exerted upon this form of amebic disease also.

A review of the literature of oral protozoans shows that pyorrhea was observed more than three hundred years ago. So that Grass in 1910 observed probably the same amebæ that ipecac which had been used in the treatment of dysentery more than sixty years ago had been used locally in Rigg's disease with favorable results. By Barrett in collaboration with A. J. Smith in 1914. So far as they are aware the authors are the first to use emetine hypodermatically in pyorrhea. Grass in 1899 described the embæ gingivæ. Sternburg in 1862 described embæ buccali which name was retained by Rowland in 1904.

Ameba Kartulis was described by Kartulis as pathogenic and was found in upper lip tumors of the mouth in Egypt. Smith and Barrett believe that entameba buccalis is pathogenic and present in all cases of Rigg's disease. They report favorable results from local application of metacresol hydrochloride.

Chiavaro in a paper before the American Dental Society reported having found entameba buccalis

in every one of 22 cases of pyorrhea out of a total of 64 cases examined. He concludes that the entameba has no pathogenic action on the contrary he states that as it feeds on the bacteria it is most probably an adjuvant in the autoinfection of the mouth. In 87 cases examined by the authors, amebæ were found in 95 of them.

The amebæ are most numerous in the bottom of the lesion. A little of the material removed with an instrument or toothpick and diluted with a little salt solution and examined with a dry high power lens when the organisms with their characteristic movements may be seen. They vary in size from that of a leucocyte to about three or four times that size. No contractile vacuoles are recognized but nutrition particles more refractile and more prominent in appearance were observed. They are stained well with carbol fuchsin one-fourth minute after which they are washed immersed in Löffler's blue one-half minute washed and dried.

Veeder found solutions of 1 to 200,000 Sanatol extract of ipecac destructive to cultures of amebæ. Rogers found that emetine in solutions of 1 to 200,000 would kill the amebæ in stool and he began using it hypodermatically in amebic dysentery.

The result of the authors' experiments were gratifying.

The 64 cases were under treatment from two days to two weeks. The doses of emetine were one-half to one grain and only one dose a day was given. Several cases received a dose daily for several days. Others were given one or more doses until the amebæ disappeared after which an interval was allowed to determine how long it would be before they returned. What their results could be observed. In several instances no amebæ could be found the next day after the first dose. In a few they were found after the emetine had been given in two or three days but in no case were they found after it had been given on three successive days.

The experiment has not added sufficiently to the knowledge to lay down dogmatic rules as to the time but favorable results may be expected to follow the administration of one-half grain emetine hydrochloride hypodermatically daily for three or four days. In all except the early mild cases it may be necessary to repeat the treatment for one or more days after an interval of three to ten days. The worst cases no doubt will be found necessary to repeat the treatment several times. Local treatment by scaling should be carried out in conjunction with the hypodermatic. Well known applications of 0.5 per cent emetine into the pocket which doubt will favor the success of the hypodermatic treatment.

W. A. PORTS

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In the May issue of the INTERNATIONAL ABSTRACT OF SURGERY Dr Eugene H Pool of New York, will contribute to the Department of Collective Reviews a résumé of the literature on the parathyroid gland which will be of interest to every surgeon as the writer deals with the subject in a most comprehensive and exhaustive manner

After a historical review of our knowledge of the parathyroid he discusses in detail the gross and minute anatomy and the physiology of the normal gland In the main, however the paper is devoted to a complete review of the present-day conception of the state of tetany as developed from clinical experience and animal experimentation The subject is considered from the physiologic the symptomatic and the therapeutic standpoints The review is made complete with a very comprehensive bibliography

Other collective reviews to be published during the next few months are

Mechanism of Fracture	EMMET RICKFORD M D San Francisco
The Relation Between Gynecological and Neurological Disease	RICHARD R SMITH M D Grand Rapids Mich
Tuberculosis of the Genito Urinary Tract	J H CUNNINGHAM JR M D Boston
Cancer of the Mouth	V P BLAIR M D St Louis
A Comparison of the Results in the Conservative and the Surgical Management of Eclampsia	REUBEN PETERSON M D Ann Arbor Mich
Surgery of the Bladder	J BENTLEY SQUIER M D New York
The Use of the High Frequency Current in Treatment of Tumors of the Bladder	HENRY G BUGSEE M D New York
Röntgenology of Gastric Cancer	A W CRANE M D Kalamazoo Mich
Uterine Hemorrhage	PALMER FINDLEY M D Omaha Neb
Cancer Treatment with the X Ray Diathermy and Radium	GUSTAV KOLISCHER M D Chicago
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Intestinal Obstruction	HARVEY B STONE M D Baltimore
Blood Pressure and Its Relation to the Ductless Glands as an Important Factor in Surgery	J E SWEET M D Philadelphia
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The Surgical Treatment of Tic Douloureux	URBAN MAES M D New Orleans
The Present Status of Radiotherapy	A HOWARD PIXIE M D Montreal
Diagnostic Use of the X Ray in Intrathoracic Disease	HENRY HULST M D Grand Rapids, Mich
Surgery of the Seminal Vesicles and Their Ducts	JOHN R CATLEK M D St Louis
Significance of Bacteriuria	L L TEN BROECK M D Minneapolis Minn

INTERNATIONAL ABSTRACT OF SURGERY

APRIL, 1915

COLLECTIVE REVIEW

THE BACTERIOLOGY OF THE URINARY AND MALE GENITAL ORGANS NOT INCLUDING TUBERCULOSIS

By IRVIN S. KOLL, M.D. CHICAGO

Professor of Genito-Urinary Diseases, Post Graduate Medical School, Associate Genito-Urinary Surgeon, Marshall Reese Hospital

IN this review the literature of the past nine years has been carefully scanned; the bibliography having been taken from the *Jahresbericht für Urologie* and the *International Abstract of Surgery* 1913-1914. Citations are made only from those references which were considered of actual intrinsic value by the writer. Many subreferences were consulted dating back as far as 1886. It is thus evident that a wide latitude of judgment was assumed by the writer in his attempt to cover every type of bacterial and parasitic invasion—excepting the tubercle bacillus—of the urinary and male genital organs.

The importance of the various predisposing factors to infection are considered more or less in detail by quoting the various theories put forth by the authors consulted.

For the convenience of those desiring to utilize the bibliography it is grouped according to the anatomical classification of the subject matter. Bacteriuria is considered separately.

INFECTIONS OF THE KIDNEY

Three accepted routes by which bacteria reach the kidney are the blood and lymph streams and the channel of the obstructed ureter. Those factors which predispose to renal infections can be classified into mechanical obstruction in the renal passages, inflammation and lowered resistance.

Interference with the flow of urine from the

kidney to the bladder may be produced by intra or extra ureteral obstruction. Calculi in the ureter constitute practically the only form of intra ureteral obstruction. Neoplasms of the intestines, stomach and pancreas and adhesions are among the more important conditions within the abdominal cavity that will obstruct the ureter. In the pelvis, uterine tumors and misplacements will often cause pressure upon the ureter in its lower third. The gravid uterus very frequently has associated with it an inflammation of the renal pelvis the so-called pyelitis gravidarum, which term is a misnomer and should be changed to pyelitis during pregnancy. That the infection most frequently occurs before conception is now well recognized. In these cases, where accurate histories can be obtained, definite symptoms are often described extending back to childhood, pointing to a pyelitis which subsequently disappeared though in all probability a bacteriuria persisted until obstruction was produced by the pressure of the pregnant uterus. It has been estimated by some urologists and obstetricians that as high as 50 per cent of pregnant women have pyelitis. It seems to occur with equal frequency in primiparae and multiparae.

In the male mechanical obstruction producing an impaired urinary drainage is brought about by the enlarged prostate, constricture of the neck of the bladder and urethral stricture.

The association of kidney infections with in-

testinal disturbances cannot be underestimated. This is often noted accompanying severe ptomaine poisoning or the various auto-intoxications. Stubborn constipation too is responsible for more pathology in the urinary tract than is usually credited to it.

The lowered resistance of the kidney producing a general systemic toxæmia offers abundant opportunity for the lodgment and growth of bacteria carried by the blood stream from remote organs. *This condition is best exemplified by such common maladies as typhoid and scarlet fevers, tonsillitis, particularly the epidemic variety, furunculosis, prostatic abscess and seminal vesiculitis.*

It is interesting to note that a careful review of the literature on the bacteriology of renal infections reveals almost uniform conclusions as to the relative frequency of various invading organisms. The colon bacillus is accredited with being the offending bacterium in over 90 per cent of all cases. Next in the order of their frequency are the staphylococcus pyogenes albus, rarely the aureus, the streptococcus pyogenes, the typhoid bacillus, the gonococcus, the bacillus fecalis alkaliogenes and the pneumococcus. No other bacteria are reported as having invaded the kidneys. Of the parasites, the echinococcus, the Bilharzia hæmatobium and the actinomyces in the order of their frequency are mentioned by various writers. Inasmuch as the colon bacillus has for its normal habitat the intestinal tract, it is readily understood why this organism should be the usual offender in renal infections.

The source of the staphylococci in the male is the urethra, this organism being found in about 30 per cent of the normal male urethrus. The streptococcus seems never to be saprophytic, so its invasion of the kidney is always secondary, most frequently accompanying scarlet fever or tonsillitis producing what is clinically called acute infective epidemic nephritis or acute hæmatogenous nephritis, which may be unilateral or bilateral.

In a very interesting and searching paper on typhoid bacteriuria, Vas claims that 20 to 25 per cent of all typhoid patients show the bacilli in the urine.

The bacteriuria usually appears between the second and third weeks of the disease and in several instances has persisted as long as three years after recovery. Petruschky estimates that there may be as many as a hundred and seventy millions of bacilli to the cubic centimeter of urine.

Considering the prevalence of gonorrhœa, it is rather remarkable that the kidney is rarely in-

vaded. Lehr reports twenty cases of gonorrhœal pyelitis found in the literature. The writer feels that the diagnosis of gonorrhœal infection of the kidney should be weighed with a great deal of reserve, particularly in mixed infections, inasmuch as it is difficult to cultivate the gonococcus and a diagnosis based upon the morphology and staining reaction is unreliable. Further more, unless the urine is obtained from a catheterized ureter, it is impossible to state that the renal infection is due to the gonococcus, and instrumentation in the presence of a urethritis is unwarranted in fact unparliamentary.

In a detailed report by Oppenheimer of one hundred cases of pyelitis, two cases are said to be due to the bacillus fecalis alkaliogenes, the only record to be found of renal infections from this bacterium. Two cases of pneumococcus pyelonephritis are mentioned by Pickler.

It is of considerable interest to note that a Russian urologist, in an analysis of 2,474 cases of parasitic renal infections, finds that 5 per cent are due to the echinococcus. But five cases of primary actinomycosis of the kidney could be found authentically reported and seven cases of Bilharzia hæmatobium occurring in this country, all of which cases were among South African negroes who were with the Boer War Spectacle at the St. Louis Exposition. This parasite is quite common in tropical zones, and many cases are reported.

INFECTIONS OF THE BLADDER

Those factors which usually lead to bacterial invasion of the urinary bladder can be classified into (1) Conditions in the male, (2) conditions in the female, and (3) conditions common to both sexes.

Prostatic obstruction is by far the most important pathologic change which by preventing a complete emptying of the bladder causes a decomposition of the residual urine. The obstruction may be an acute or chronic inflammation as well as a true hyperplasia. Contracture of the vesical neck, a condition often not recognized, usually leads to infection of the viscus. Urethral stricture frequently has associated with it a cystitis, more or less marked according to the location, number and tightness of the strictures.

In the female, uterine misplacements are common predisposing causes of infections of the bladder. This is brought about by distortions of the bladder wall whereby folds and pockets are produced which act as reservoirs for residual urine. Post peritonitic adhesions in the pelvis also may produce such changes in bladder

musculature as to cause incomplete emptying. One author gives separate heading to a form of bladder inflammation noted in newly married women. This he (Sippel) terms cohabitation cystitis. He has observed and recorded a number of cases. Of those examined the urethra was always found traumatized. The mechanical factors are forcible coitus necessitated by either a vaginismus or a very rigid hymen. The urethra where found lacerated lay low toward the introitus.

Of all mechanical procedures which lead to invasion of the bladder by pathogenic organisms post-operative catheterization takes the lead. This is equally true in males and in females. This means of emptying the bladder is undoubtedly resorted to unnecessarily in most instances. Either there is faulty sterilization of the catheter or insufficient cleaning of the meatus. Then too it must be borne in mind that it is almost impossible to free either the male or female urethra of bacteria which though saprophytic on the untraumatized mucous membrane easily become pathogenic in the presence of the lowered resistance of a post operative host.

Only within the past few years has the importance of the accumulated faeces in the rectum in association with vesical disturbances been fully appreciated. The number of cases of cystitis that are due solely to chronic constipation are legion. That intestinal stasis is the direct etiologic factor is proven by the fact that the removal of this cause corrects the cystitis provided of course that the bacterial invasion has not become too marked.

Foreign bodies must be considered as predisposing to cystitis. Calculi are the most frequent. Pieces of catheters, hair pins, particles of wax etc. introduced into the bladder by accident if left will soon lead to the invasion of bacteria.

It is of interest to note the wide variability in the bacterial findings in vesical infection. In all probability the difference in finding is due to variations in technique, employment of different culture media and also to the flexibility of bacterial nomenclature. It is evident in looking over the many result of the writers on this subject that the same bacteria are called by different names according to the claim of priority of discovery.

The following tables were selected as probably the most reliable:

Albarran 204 22-23 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050 1051 10

90 ba II col p re li re
ba II col m ed culture

st phylotococu
7 proteus vulgaris
18 treptococcu
1 gonococcu — pu e cult re ()
3 gonococcu — m ed cult re
5 typhoid bacill
3 p eumococci
2 m ocu neu

Bastianelli in 1893 reported his findings in 37 cases

6 bacilli coli — 1 pure culture
1 phylococcus — 6 pure culture
7 protus ugaris — pure culture
4 treptococcus — 1 pure culture
3 pneumococcus — 3 1 pure culture
5 diplococcus intestinalis
3 gonococcus — pure culture
1 berberic cell — pure culture

Tanaka a very reliable investigator in 1909 analyzed 50 cases of bladder infection and give in his results a most amazing nomenclature. No similarity to his terminology has been found in the literary review.

4 ba ll ree bt li
4 b coll ree bt li f t e
b ll uree sublt (e art on)
b illu reu longu liquef en Neuer
ba ll ree lb s Löffel
bae ll rea l ct eus
ba ll ver fl un f e
ba ll ree impl
b llus ree lb on liquef
bae llus urethre Mel tior
ba ll ree Deliriu k
b llus col comm ne
ba ll ree k rph
bae ll umil typhosus M sch k
ba ll citreu l rankl nd
b ll tuberculos Koch
lept thire ree fl Neuer
ba teri m r e Neuer
t j h lococoru pi genes feu
staph lococ py genes albu
t phylococu pi genes citreu
micrococ ree septu liquefacien
d j l lococoru rea ureu liquef cien
d j l xoc ree fl laq i ren t r
4 monorocoru rea non pi genes Ren u
monococ eu rea fl non laq d cien
crococ ci bari m / mimm n
t j l lococ pi genes
5 gonococoru pi genes

The most recent and most convincing analysis of bacteria invading the bladder is the work of V. C. David. He classifies his bacteria into aerobes and anaerobes in the following table:

t bacill	ol	AE	MB
ph	lenc us	ibu	
t ph	lococu	reu	
ba ll	ertent	ca	
t ba ll	laxal	lk	lignea
bacil	protru		
ba l	ss cy	neus	

- streptococcus
- 1 bacillus pseudodiphtheriae
- 1 unidentified Gram positive diplococcus
- 1 pneumococcus
- 1 influenza like bacillus

ANEROBES

- 4 black pigments producing bacilli
- 4 Gram negative influenza like bacilli
- 2 taphylococcus parvulus
- 1 Gram negative coccu
- 1 bacillus funduliformis
- 2 Gram positive taphylococcus

In addition to the infections mentioned in these analyses, isolated cases or small groups of cases are cited as follows

D J Davis isolated in pure culture in three cases what he terms a haemophilic bacillus, which morphologically resembles the bacillus of influenza and grows only on haemoglobin media. Because of this cultural characteristic Davis suggests that the bacillus may be frequently overlooked. Two of the cases had pyuria and the third gave a history of a previous urinary infection.

Rudiger reports four cases of carcinoma of the stomach in which the Oppler Boas bacillus was found in the urine. A mild degree of cystitis was present in all the cases. Special glucose media necessary to obtain growth. This bacillus has also been found in the urine in carcinoma of the kidney.

Many cases of bladder invaded by hydatid cysts are recorded. These references are usually simple case reports and the only compilation encountered was a very meager reference made to a report from the Argentine Republic of 148 cases of hydatid disease of the urinary organs mostly involving the bladder. The article was not obtainable. Neisser also reported a collection of five hundred cases of the hydatid disease but this reference too was not available. The single case reports are given in the bibliography.

Bilharzia disease of the bladder is according to the records a very common malady in the tropical zones. A number of references will be found in the appended bibliography.

Two cases of sarcoma in the urine the origin of which was definitely the bladder are reported by Mueller. He identifies them as *sarcoma urica*. In one case the infection was mixed with colon bacilli in the other a pure culture was obtained.

Fischer collected twelve cases of amoebic cystitis. One was associated with amoebic dysentery another originated from a contaminated

water supply. No etiology is given for the remaining ten cases. Eleven of the twelve cases occurred in males.

BACTERIURIA

There is a vast literature that is loosely entitled bacteriuria. I make this criticism because a careful examination of most of these articles shows faulty conclusions. It must be remembered that the normal urine is sterile and the bacteria are found in the urine of apparently healthy individuals. Their presence is a note of warning a danger signal as it were of some pathological change going on in the urinary or genital tracts. It is true that bacteria are often saprophytic in the urethra and prostate but never in the kidney or bladder. We must conclude, therefore that unless it is definitely shown that bacteria in urine originate in the urethra or prostate and that here in the absence of pus, bacteriuria as an entity is a misnomer.

Despite the assembling of a very great number of articles under this heading, their perusal reveals comparatively little of interest. Nearly every title could be changed and more correctly placed under the caption of lesions in the kidney, bladder, prostate or urethra. Of interest and deserving of special mention however are the following observations.

Conradi and Breast collected a number of cases of diphtheria and examined the urines for the presence of the bacillus. In 155 cases the organism was found in 54. Koch made urinary examinations in 26 diphtheretic patients and found the bacillus in but two cases. He also examined the urines of 19 scarlet fever patients and was surprised to find the diphtheria bacilli in four cases. The former observers claim that it is necessary to make repeated cultures before it can definitely be said that the bacilli are not present. They do not state definitely how long after convalescence the bacillus persists. In one case the bacilli were found on the twenty fifth day following complete recovery. The cultures injected into animals proved pathogenic.

In urinalyses of sixty patients having carcinoma sarcoma and lues Vedeler found blastomycetes in all. He claims that by staining he can differentiate between malignancy and lues regardless of the location of the tumor the mold can be found in the urine. He states that as long as the blastomycetes are to be found in the urine following an operation for malignancy just so long is he fearful of a recurrence.

Tanaka reports 11 cases of filariuria without demonstrable parenchymatous lesion. 7 showed

hematochyluria 2 showed only chyluria and in 2 the urine was clear

THE URETHRA

It is often difficult to make a fine distinction between bacteriuria originating in the urethra and in the kidney. This is readily understood when it is remembered that 20 per cent of males harbor anywhere from fifteen to thirty different strains of bacteria which though usually non pathogenic may become pathogenic under various stimuli. The female urethra contains saprophytic organisms more frequently than the male due to the proximity of the vagina and anus.

It is variously estimated that between 50 and 75 per cent of the males of America and Europe either have had or have gonorrhoeal urethritis. This colossal figure naturally makes up the greatest consideration of the bacteriology of the urethra. Thus far eighteen different strains of gonococci have been isolated. The success of the artificial cultivation is still limited to a few who have developed a technique and a satisfactory culture media only after prolonged and tedious labor. The gonococcus is not easy of cultivation outside the urethra and it is the consensus of opinion of those who know that the often diagnosed Gram negative diplococcus taken from the test tube is not the true Neisserian organism. The work of Worden, even though revolutionary is worthy of citation. This worker claims that most diplococci which are diagnosed as gonococci are involution forms of staphylococci and that, at will by varying his cultivation technique he can transform his organism into one of several types of staphylococci.

Wolbarst has collected 37 cases of gonorrhoeal urethritis occurring in males ranging from sixteen months to fourteen years. In none did any complications occur. The age table is as follows

6 months	case
8 months	case
3 years	3 cases
4 years	7 cases
6 years	5 cases
7 years	3 cases
9 years	cases
years	cases
years	3 cases
3 years	4 cases
4 years	6 cases

Despite the frequency of gonorrhoeal infections of the urethra, it should not be forgotten that every urethral discharge is not due to the gonococcus. The staphylococci are next in frequency then follow the streptococcus, micrococcus catar-

rhals, bacillus lactis aerogenes pneumococcus and bacillus pyocyaneus

The micrococcus catarrhals is of special interest inasmuch as clinically it produces a pathology very similar to the gonococcus, though much less severe.

Morphologically the two are at times identical, and both are Gram-negative. The differentiation is made by the fact that the micrococcus catarrhals will grow on ordinary media at room temperature.

Ramond cultivated the following bacteria from the normal urethra. The greatest number are found between the meatus and fossa navicularis. The deeper the approach into the urethra the fewer the bacteria. The bulbous urethra was quite free from any organism in every case examined. The organisms in the order of their frequency are

Aerobic.

Staphylococcus albus

Staphylococcus aureus

Staphylococcus citreus

Micrococcus subflavus of Bumm

Micrococcus lacteus fariformis of Bumm

Micrococcus citreus conglomeratus of Bumm

Streptococcus urinae

Streptococcus giganticus urethrae of Lustgar

Pseudogonococcus of Steinschneider

Anaerobic

Various strains of staphylococci

Bacillus ramosus

Bacillus refringens

Very little is written concerning the presence of parasites in the urethra. Pfister of Cairo Egypt, reports the frequent occurrence of Bilharzia lodging in the posterior urethra and producing strictures.

THE PROSTATE AND SEMINAL VESICLES

The anatomical location of these glands naturally predisposes them to frequent infections. A monograph by Hugo Unterberg on the bacterial flora of the normal prostate gives the following findings. No individual examined had ever had gonorrhoeal or any other infection of the genito-urinary tract. The ages ranged from thirteen to sixty. Cultures were made from the urethra which was then thoroughly irrigated the prostate massaged and cultures made.

Twenty five individuals examined

Cultures from the urethra positive in	20
Cultures from the prostate positive in	
Bacteria from the urethra and prostate identical	0
Prostate negative and urethra positive in	0

Prostate positive and urethra negative in
Prostate negative and urethra negative in

Organisms found in urethra

Staphylococcus aureus in urethra
Staphylococcus albus in urethra
Streptococcus in urethra
Colon bacillus in urethra
Pneumococcus in urethra

Organisms found in prostate

Staphylococcus aureus in prostate
Staphylococcus albus in prostate
Streptococcus in prostate
Colon bacillus in prostate

In 240 cases of acute gonorrhoea in the Pomeranian clinic there were 11 cases of prostatic abscess. In 203 cases from the same clinic there were 76 cases of prostatitis. Cultures taken showed the gonococcus mixed with colon bacilli, staphylococci and streptococci.

Marchildon found two cases of typhoid prostatitis and spermatozoitis. Both patients entered the hospital with typhoid fever and both came to autopsy. Pure cultures of the bacillus were obtained from the prostate and seminal vesicles.

Three cases of echinococcus disease of the prostate are reported: one by Paryski and two by Niccasse.

One case of actinomycotic infection is recorded by Cohn of Berlin. It occurred in association with a pyonephrosis of the same etiology.

CONCLUSION

The writer recognizes full well that all classifications are more or less faulty and that they really represent the ideas of an individual. The foregoing review was arranged with the idea of a logical collaboration of infections of the genito-urinary organs to serve as an aid to those doing literary or scientific research work in this broad field of medicine. As far as possible repetition has been avoided and seldom has any personal criticism of the authorities quoted been intercalated.

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ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

ASEPTIC AND ANTISEPTIC SURGERY

Reich Bruckkus B: A Modified Grosssch and D's infection with Tincture of Iodine for Operations (Über eine modifizierte Grosssch Jodtinkturinfektion bei Operationen) *Dtsch. Chir.* 93
By Zentralbl. f. d. ges. Chir. 1 Grenzgeb.

On Tavel's instigation the author undertook the same histological studies of some modifications of Grosssch's method as Walther and Touraine performed with the unmodified method. The modifications are as follows:

1. Grosssch, Walther and others used 10 or 12 per cent official tincture of iodine. In Tavel's clinic a mixture of pure iodine 3 absolute alcohol 10 and chloroform 90 was used.

2. The previously named authors allowed the tincture of iodine to act for 10 minutes. In Tavel's clinic the time varied seldom 10 minutes generally 5 minutes sometimes 2 minutes and urgent cases 1 minute.

3. The other authors gave two coats of iodine and a third after the closure of the wound. Tavel gives one coat shortly before the incision is made.

4. Grosssch did not remove the iodine with 96 per cent alcohol as Tavel does to prevent eczema and on account of possible catarrh of the mucous membrane.

The following facts were observed among others. The tincture of iodine must act for at least 5 minutes in order to inhibit movement and growth of the bacteria and to kill them. In the 100 cases observed by the author in Tavel's clinic it made no clinical difference in the wound healing when the iodine was washed off with 96 per cent alcohol before the lapse of five minutes. In Tavel's clinic eczema was seldom caused by the iodine even when 12 per cent iodine was used. In operations on the intestines care was taken to wrap the eviscerated intestines in warm damp compresses and so far as possible to keep them from touching the skin; therefore they had none of the bad results from disinfection with tincture of iodine which some surgeons have observed. The iodine penetrates the stomach lumen and it is to be assumed that it also penetrates the rete malpighi. The author thinks Grosssch's disinfection with tincture of iodine is the simplest and surest method. Farrer Lora

ANÆSTHETICS

Kulenkampff D: Recent Progress in Inhalation Anesthesia (Neuere Fortschritte auf dem Gebiet der Inhalationsanästhesie) *Deutsche med. Wochenschr.* 19 4 21, 1903
By Surg. Gynec. & Obst.

One of the greatest advances in the administration of inhalation anesthesia has been the use of apparatus which limits the concentration of the vapor. The unpleasant by-effects of ether are almost entirely avoided if the concentration does not exceed 6 to 7 per cent of the volume of the air breathed. The author believes that anaesthetization should be done with dilute ether vapor and supplemented if necessary with other anaesthetics. Chloroform of low concentration not over 17 volume per cent is best. Mixtures of anaesthetics should not be used for the concentration of the different components differs and the concentration of the vapor actually given cannot be measured. Masks should be used that admit air freely and do not permit carbonic acid gas to collect. Free change of air with removal of CO₂ is the important thing, not the amount of oxygen obtained.

The anaesthetist should look at the patient closely every minute or two and observe the slightest change in color and appearance. The patient's appearance and the fact that he is breathing freely are of much more importance than the condition of the pupillary and corneal reflexes and the pulse. Testing the corneal reflex does no good and may even be injurious.

The anesthesia should be kept as light as possible. Very deep narcosis is rarely necessary. Patients have in the past been kept under much deeper anesthesia than was necessary. Von Brunn holds that anesthesia should be stopped just at the boundary of the excitement stage. Hochmann just in the beginning of complete anesthesia. It is much better for the surgeon to exercise a little care and patience in the operation than for the patient to be given so much anaesthetic that rougher treatment will not be noticed. The anesthesia should be kept as uniform as possible, sudden and frequent variations in the degree are dangerous. External rest from avoidance of noise etc. is less important than internal rest, that is a quiet psychic condition of the patient. Therefore a good night's rest should be assured the night before a sleeping

medicine being given if necessary and a small dose of morphine just before the anæsthetic to produce a condition of euphoria.

An important indirect advance has been made by extending the use of local lumbar and intravenous anæsthesia and thus avoiding or at least limiting as much as possible the giving of inhalation anæsthesia. The prognosis is much improved in some operations stomach resection for instance by a combination of local and inhalation anæsthesia. Even if all do not agree with Crile a theoretical anæsthetic association there is no doubt that even extensive operations can be carried on with much less ill effect on the patient by the employment of such combined methods of anæsthesia. A. Goss.

Gellhorn G.: Acetonuria Following Spinal Anæsthesia (Über Acetonurie im Gellg der Spinalanæsthesie) *Zt f allg f Gs dk* 1914 xix 2 3 4 By S rg Gynec & Obst

Although the fact that acetonuria occurs following inhalation narcosis is generally known it is not a matter of common knowledge that this occurs following spinal anæsthesia. Gellhorn therefore conducted examinations on 35 gynecologic cases operated upon under spinal anæsthesia and in two cases only did the acetonuria fail to appear. One case was a cesarean section and the other an implantation of the ureter into the bladder following a radical Wertheim operation for cancer of the uterus which had compressed the ureter completely and resulted in an anuria of 3 days standing. All other cases showed a definite acetonuria appearing in from 8 to 24 hours and lasting as long as 14 days in some cases. The average duration was about 5 to 6 days. The observations were made in different hospitals and the examinations made by different men so that it can hardly be attributed to errors in technique. The methods of Legal Lacben and Gerhardt were employed. No deleterious effect could be ascribed to the acetonuria. All cases recovered uneventfully except a case of radical extirpation of the uterus for cervix cancer which died of general sepsis after doing well for two weeks.

The interesting point in regard to the observation

is question as to the origin of the acetone. Commonly it is supposed that acetonuria develops only in the presence of carbohydrate impoverishment as in starvation exclusive meat diet fever diabetes nervous diseases pregnancy epilepsy Basedow's disease after chloroform or other narcosis. This however disappears as soon as carbohydrates are added to the diet. However the general acceptance of this theory has lately been questioned. Piper observed cases in which acetone appeared after operation in spite of no nutritional disturbances.

Harris studied the subject in infectious diseases and found acetone present in 82.8 per cent of scarlet fever cases in 90.6 per cent of diphtheria cases and in 33 per cent of 21 typhoid cases. In 8 severe typhoid fever cases it was absent. Harris concluded therefore that the acetonuria does not depend on decreased food absorption—failure to utilize the carbohydrates. As the diet need not be curtailed preceding lumbar anæsthesia, these cases serve as excellent material in which to test the carbohydrate impoverishment theory. All these cases received a normal diet preceding operation and the last five even had a diet rich in carbohydrates for several days preceding operation. The usual castor oil purging was avoided. Food was administered a few hours after operation and still acetonuria set in. The carbohydrate hypothesis must therefore be rejected for some cases, and the origin of the acetonuria must still remain in doubt.

L. A. JENCKE

SURGICAL INSTRUMENTS AND APPARATUS

Cotton F. J.: Rubber Gloves and Technique of Mending *S rg Gynec & Obst* 1914 xix 780 By S rg Gynec & Obst

The author calls attention to the gain in efficiency and economy if in patching punctures or cuts in rubber gloves one uses not the imple bit of rubber but a patch of rubber pasted on a thin card. This prevents curling and the patch is far more neatly and easily put on. Later the glue dissolves in water or the steam of the sterilizer and the card backing of the patch is detached.

SURGERY OF THE HEAD AND NECK

HEAD

Horsley J. S.: Transplantation of the Anterior Temporal Artery *T South S rg & Gynec* 1914 Asheville 1914 Dec By S rg Gynec & Obst

Occasionally defects of the cheek are exceedingly extensive and sometimes require a flapping in the mouth as well as an external covering. In such instances Horsley recommends that a flap be turned up from the neck so that the skin side will line the

oral cavity and that a flap be taken from the forehead which is supplied by the anterior temporal artery. This artery is carefully dissected out including some surrounding tissue, and is buried under an incision leading from the origin of the artery to the edge of the defect. This incision should not be too deep as it might then injure the branches of the facial nerve. The flap should be sutured loosely so as to permit slight oozing which relieves passive hyperemia. The cause of failure with such a flap would be saving too much nutri-

tion not too little. The paper was illustrated with drawings of the procedure and photographs of two patients that were operated upon by this technique.

Patton W F. Extensive Case of Osteomyelitis Involving Two-Thirds of Skull Originating from Frontal Sinusitis. N O J M & S J 19 4 LXVI 3 8 By Surg Gyn & Ob t

Patton contends that infection of the diploë of the bone is caused by especially virulent secretions following traumatism and that it occurs in two forms circumscribed and diffuse.

The former gives rise to the ordinary local symptoms and gradually spreads until the ethmoidal capsule is reached when it ceases. This form usually answers promptly to thorough resection of diseased bone. The diffuse form is entirely different for it knows no boundaries the process continuing until the entire osseous covering of the brain is involved unless the patient dies of cerebral infection.

All the manifestations in this form are more sudden and acute the abscess soon points and ruptures and the underlying bone is found to be spongy and infiltrated with pus and sequestra are readily formed. In this type of cases the prognosis is exceedingly grave they usually terminate in general septicæmia thrombophlebitis of one of the large intracranial veins or meningitis.

The author's case was of the diffuse type. The patient a man aged 28, had had some nose trouble 6 years previous for which he had polypi removed from the left side.

When first seen a left post orbital abscess had been opened by an oculist. Examination of the nose revealed ethmoids anterior and posterior full of polypi and pus coming from the left frontal sinus. The Mosher operation was performed on the left ethmoids and the frontal sinus was washed out. The patient improved and insisted on returning home. The improvement only lasted a week when the nose and orbital wounds began to discharge freely and the pain returned.

The patient again came to the city for treatment and a Killian operation of the frontal sinus was performed by a specialist. Again slight improvement he deserted and went home to die but was persuaded to return to the city and on December 30th was seen by the author.

Examination revealed both lids edematous left eye bathed in yellow pus both supraorbital regions swollen and very tender patient in a semicomatose condition temperature 102. Operation was advised.

The left side opened to the old upper orbital scar there were several large sequestra and the entire anterior plate was necrotic. The necrosis was found to extend to the coronal suture arc and behind the left ethmoidal orbital angle and a large pocket of pus was found between the perosteum and the bone. Upon removing the anterior plate the dura was exposed and covered with granulation tissue and somewhat bulging. The

left frontal was found ruptured into the right and all the anterior plate necrotic.

The first incision was continued across the bridge of the nose over the right eyebrow to the external angle of the right eye and this entire flap turned back. All the anterior plate was removed from the right sinus and also part of the nasal bone the supraorbital ridges being left. This brought the dura on the right side plainly in view and after thoroughly curetting the ethmoids on both sides and exposing the sphenoid the wound was closed with a drain through the nose and several counter drains on the left side a saline dressing was ordered and the patient sent to the ward. Much to the author's surprise the patient progressed nicely. The infection proved to be a mixed streptococcus and staphylococcus. Wassermann was negative.

The wound was dressed and irrigated daily and on the sixteenth day an autogenous vaccine—streptococcus chiefly—was given. This seemed to have a decided influence in decreasing the discharge. The vaccine was repeated on the third day and the wound seemed cleaner and the discharge less. A skiagraph was then taken and extensive necrosis of the right side and several large sequestra were easily made out.

On January 31 the wound was opened in the old cicatrix and a mass of granulation tissue was found covering the exposed dura in the frontal region the frontal and the occipital bones of the right side were found loose and necrotic all the posterior plate was necrotic and several sequestra were removed.

The patient took the antiseptic badly and the necrosis throughout was so extensive that the operation was abandoned after thorough drainage. On the second day he complained of pain and twitching in the left arm nausea and extreme nervousness. It was decided to sedate him. On the eighth day his left arm was completely paralyzed. He died on the eleventh day with no pain.

Patton claims that this is the most extensive osteomyelitis of the skull he has been able to find a record of. Usually these cases of streptococcus origin are fatal the germ traveling in the small lymph channels in the diploë of the bone and gradually involving the entire skull. He was impressed with the absence of metastasis except toward the last. In view of their being so many bone necroses and exposed dura he thought this remarkable.

LEWIS B. CRAWFORD

Councilman W T. The Chomatous Tumors of the Brain. Lo J I and M J 9 4 vi 4

By Surg Gyn & Obst

From a consideration of 25 cases of brain tumors the following is gleaned. The gliomata resemble in many respects connective tissue tumors notwithstanding the fact that they are of epiblastic origin. The most striking microscopic characteristic of the gliomata is their manner of growth which is by infiltration and not by expansion that is in its

growth the glioma replaces tissue substituting itself for it and not pushing it aside. Another characteristic of the glioma is the tendency to cyst formation. The cysts so formed differ from the cysts in other tumors which either result from the activity of epithelial secretion or represent the remains of areas of degeneration. Here however they are due to the fluid absorption of the tissue and represent an accentuation of a condition common to the entire tumor.

The third peculiarity of the gliomata as a class is the limitation of the tumor to the tissue in which it has originated. Even when rapidly growing the growth is confined to the nervous tissue. Another characteristic of the gliomata is the tendency of the tumor to extend along surfaces. One may see long lines of extension of the growth either on the surface of the brain or in a sulcus connected with the tumor at one point. J. H. SMITH

Thorburn W.: The Present Position of Cerebral Surgery. *Med. Pr. & C.* 914 Cl. 44.
By Surg. Gynec. & Obst.

The author in the present paper confines himself to the discussion of two conditions: epilepsy and cerebral tumors.

He states that in surgical literature there is almost a complete absence of definite information as to the late results of operation for epilepsy. Thorburn has personally seen many cases of epilepsy held in abeyance temporarily after operations such as hernia amputation, etc. The only records the author was able to find were those of Cushing and Rawling. Cushing obtained 70 per cent of cures in traumatic cases; Rawling 10 per cent.

In the last thirteen years the author has operated upon 39 cases of various types for epilepsy. Of 19 traced cases 5 were reported cured and 6 greatly improved. It presents the author does not advise operation for idiopathic epilepsy but suggests that operation be limited to the traumatic cases only. Some bone is usually removed although bony spicules are very infrequent. Osteitis is much more common. Occasionally cysts have been found between the bone and the dura in some places only. Adhesions of the dura to the cortex are found. When visible areas of degeneration are seen in the cortex they are removed.

During the last few months there has appeared some valuable data. Howard Tooth published an analysis of 250 operations on Iwelsberg on a basis of 168 cases. The author adds to these his collection of 37 cases operated upon for brain tumor making a total of 400 cases. Of this entire number 216 or 54 per cent were alive a year from the date of operation.

A large proportion of these tumors are malignant or tuberculous; hence excision of cerebral tumors with hope of radical cure must be exceptional. Surgery, therefore, must not be used as a cure but rather used to relieve conditions and prolong life.

The author has divided his cases into two classes: those in which the tumor was removed and those in which decompression and exploration were done. In the former 41.6 per cent lived in the latter 11.1 per cent lived. The author however advises early decompression as in this way blindness and pressure symptoms may be relieved. F. C. CARY

NECK

Wetherill R. B.: Colloid: Differential Diagnosis. *J. Ind. & St. M. Soc.* 1914, 507.
By Surg. Gynec. & Obst.

The author lays stress on the complicated symptom picture that diseases of the thyroid gland produce because of the intimate correlation with the other ductless glands of the body. After discussing the embryology, histology and physiology of the gland he takes up the pathological classification of goiters: viz. (1) the hypertrophic follicular goiter in which all the elements are hypertrophic—the physiologic goiter of puberty; (2) the parenchymatous type which consists of hypertrophy and hyperplasia of the epithelial cells lining the acini; (3) colloid goiter, in which the epithelium is lower than in the second class and in which there is a larger preponderance of colloid matter; (4) the adenomatous in which the glands have their elements formed in follicles without showing a capsule.

For the clinical classification he makes two divisions: (1) toxic and (2) simple. This classification is not satisfactory because the simple goiter may show evidence of a delayed toxemia later on in the disease even going so far as to produce a typical Graves disease on an old colloid goiter base.

The author then adds a list of the differential points in the clinical diagnosis of hyperthyroidism and hypothyroidism covering age, onset, character, rates of the skin and nerve reactions, heart exhaustion, the state of the thyroid gland, body temperature, analysis of the urine and blood, etc.

As to blood findings in exophthalmic goiter he quotes Mayo in emphasizing that the lymphocytosis is not constantly present in all exophthalmic cases. He takes up the question of blood pressure and discusses the various findings of the low and high pressure in relation to the stages of thyroid diseases. The presence of glycosuria he thinks is dependent on the disturbance of metabolism in hyperthyroidism. As for the presence of albumin in the urine he takes it to be a sign of the degeneration which is present in the liver, central nervous system, etc.

He states that the shape and consistency of the gland will in the majority of cases determine the type of goiter. The hypertrophic and hyperplastic types show gland enlargement but its normal shape is preserved. In colloid cystic and adenomatous and malignant goiters the shape is often irregular. The dyspnea which is caused by two factors—one on account of the giving way of the heart muscle

from toxæmia and second by the pressure on the trachea in the case of the simple goiter. Stenosis of the trachea from pressure can be detected by auscultation which shows feeble tracheal breathing below the point of obstruction the aggravation of the symptoms appearing on raising the arms high above the head and evidence of an area of dullness in the upper border of the sternum below the clavicle are points in diagnosis.

It is important to differentiate enlarged thymus from a substernal goiter because in the former case operation is contra-indicated. Prominent symptoms of hyperplastic thymus are sudden attacks of dyspnoea accompanied by retraction of the sub-clavicular intercostal spaces. Hyperextension of the head facilitates dyspnoea because this position by drawing the upper part of the gland higher in the neck diminishes the space between the vertebrae and the sternum and hence compresses the trachea.

He joins Mayo in urging that all cases which are operated on should have a previous laryngoscopic examination made of their vocal cords to see if there is any paralysis present due to pressure of the goiter on the recurrent nerve.

In summing up the author urges that all cases of Graves disease benefited by iodine be carefully studied as to heart symptoms, the condition of their lymphocytosis, their blood pressure, nervous symptoms by comparison with those types of diseases aggravated by this medication. HARRY G. SLO.

Frazier C. H. A Review of One Hundred Consecutive Operations for Goiter with Especial Reference to the Treatment of Hyperthyroidism. *A. S. G. Phila.* 941, 583.

By Surg. Gynec. & Ob. t.

The author's review is based upon a series of 103 consecutive operations among which were 81 thyroidectomies, 17 ligations of vessels and 5 operations for thyroglossal cysts. Grouped histologically there were 34 simple goiters, 29 adenomatous, 1 sarcoma, carcinomata and 32 hyperplastic—exophthalmic—goiters. In the thyroidectomies there was only one fatality that of an 11-year-old boy with a large vascular sarcoma. Among the ligations there were 3 fatalities which occurred in cases which according to our more enlightened conception of the limitation of surgical therapy would be now regarded as inoperable at least in the acute stage at which the operation was performed.

With regard to the treatment of nervous lesions of the thyroid gland and particularly as to the propriety of operation the principles before the patient a fair presentation of the facts is somewhat as follows: (1) That the operation is peculiarly free from danger. (2) That the patient must decide for herself whether the will give sufficiently nothing to wear it is rem. (3) That the tendency is a considerable number of cases of simple goiters to undergo certain changes which will affect the heart, kidneys and (4) that in certain cephalic instances in late life goiters become cancerous.

As to the risk of operation there were no fatalities in the author's series of partial thyroidectomies.

As to the end results in the toxic cases Frazier's report corresponds with those from other clinics. Of the patients which he had heard from 90 per cent had fully recovered or were greatly improved and of the latter a number had been operated upon within one year.

The author finds that the completeness of the cure does not depend entirely upon the successful removal of the gland but that two other factors must be considered. First the care of the patients after the operation which should whenever possible free the patient from physical and nervous strain for periods varying from several months to two years. Unfortunately the social status of the patient sometimes makes it impossible to provide these conditions. This must be borne in mind by the practitioner into whose hands the patient falls after operation and the completeness of the recovery will depend upon his appreciation of the need of this after-treatment and whether the circumstances permit of its enforcement. Second the existence of chronic visceral disease at the time of the operation must be taken into account. Some of the patients are physical wrecks with organic lesions of heart, kidney and other organs from which complete recovery is impossible. As Kocher has said if all cases were operated upon within a short time after the outbreak of the disease they would probably all be cured and to this might be added that the mortality low as it now is in all cases would be reduced to that of as common a procedure as herniorrhaphy.

Finally in speaking of the attitude which the general practitioner should take in handling and advising these patients Frazier states that if the practitioner so chooses he has the right to try non-surgical means in the early stages of the disease before the myocardium or kidney or nervous system is permanently damaged. But if he fails to arrest the disease and does not advise operation in the curable stage he should be just as severely censured as the practitioner who fails to call for surgical aid until his patient with acute appendicitis has developed peritonitis or one with a callosus ulcer of the stomach has developed carcinoma. The conditions are quite parallel. The extraordinary recuperative power of patients with Graves disease is amazing and in most cases such as they are at the time of operation they are almost uniformly restored to perfect or remarkably good health. (E. R. F. B. 1128)

McClintock R. I. The Thymus to Be Served Disease. (The Benz. h. and Thym. m. V. h. B. sedow.) *Bert. H.* 1144, 944.

By Surg. Gynec. & Obst.

McClintock reviews the work of many writers on the disease as a disease and comes to the conclusion that the thymus plays an active part in the production of the disease. Based on symptom-complex it is probable that a great majority of cases of

Basedow's disease have persistent thymus. Hyperplasia of the thymus is not merely a symptom of a status thymicolymphaticus but it may occur alone. The symptoms caused by the thymus are increased by the hyperplastic thymus the thymus exercises its injurious effect directly by injury to the heart and indirectly through the hypoplasia of the adrenal which so frequently accompanies it.

It has been argued that the thymus is not involved in Basedow's disease because some cases with an enlarged thymus run a favorable course, but it must be remembered that the pathological action of the thymus is not necessarily in proportion to its size moreover the percentage of patients with hyperplastic thymus is much greater in the severe and fatal cases of Basedow's disease. An exclusively thyroid medication is unsatisfactory in Basedow's disease. The thymus is sometimes involved to such an extent that it dominates the clinical picture. Recent surgical experiences are cited in corroboration of this statement. The changes in the thymus are coordinate and parallel with the changes in the thyroid and cannot be regarded as secondary compensatory manifestations. Eppinger and Hies' assumption that a distinction can be made between vagotonic and sympathotonic forms of Basedow's disease cannot be confirmed. Therefore we cannot attribute the signs of vagotony such as subjective heart symptoms without marked change in pulse sweating digestive disturbances diarrhoea Basedow blood picture and severe myasthenia, to hyperplastic thymus.

Phloretone and adrenalin tests have only a limited diagnostic value and can be regarded at most only as supplementary reactions. Thymus hyperplasia must be demonstrated by percussion roentgenograms and roentgen illumination in the latter method the thymus shadow will move on respiration.

An enlarged thymus is no contra indication to operation on the contrary primary resection of the thymus should be undertaken where there is marked thymus hyperplasia and only slight thyroid symptoms. The symptoms due to the accompanying hypoplasia of the adrenals should be treated with adrenalin. The Basedow blood picture is doubtless not due exclusively to the thyroid the thymus plays a part in the lymphocytosis as is shown by the fact that the blood picture has become normal after thymus resection in some cases where it was very little influenced by operation on the thyroid.

Statistics from Küttner's clinic show failure to cure the Basedow's disease in 20 per cent of the cases where the goiter was removed the hyperplastic thymus is doubtless responsible for these failures. In future study of Basedow's disease special attention should be devoted to changes in the chromaffin system the genital glands hypophysis, and parathyroids. There are many reasons for assuming that Basedow's disease is a pluri-glandular disease.

Hart C: Significance of the Thymus in the Origin and Course of Basedow's Disease (Die Bedeutung des Thymus für Entstehung und Verlauf des Morbus Basedowii). *Arch f Klin Chir* 1914 31: 347.
By Zentralbl f d. ges. Chir u. L. Grenzgeb.

It is interesting to note that Hart has changed his opinion considerably in regard to the thymus, which is not surprising as the study of this question is still in the theoretical stage. He supports Svehla's teaching in reference to hyperfunction of the thymus, which has not yet been confirmed by physiological experiments and which even Adler's and Yokoyama's work does not prove. Anatomically he holds that the lymphocytes of the thymus are derived from some other source and that the lymphatic components of the thymus have little or no significance while the epithelial components are the most important.

In contrast with his earlier works Hart now holds that there are a great number of Basedow cases with which the thymus has nothing to do and of which he asserts that they have a milder course than those in which the thymus is involved. He discusses the relation between the thyroid and the thymus although he admits that we know much about the connection.

possible maintaining both traction and extension with increasing force and holds the position a few seconds at the end of the full downward extension. First the right hand clamps the left then the left clamps the right the thumb not being used. The back is held vertical the belly not protruded the chin moving up as the hands go down.

The treatment comprises about ten full exercises daily five with each hand for two or three months—then two or three times a week, as thought best.

The author believes this exercise wisely applied to be of enormous value but it requires the same precision, intelligent selection and application as any other remedy. C C CHITTERTON

Hartshorn W F: Fracture of the Clavicle. *J I M J* 1914 c 1110 By S R Gynec & Obst

Hartshorn considers this fracture of importance because of the important supporting function of the bone the possibility of deformity resulting especially in women and the fact that a predisposition to scoliosis may occur in children following this fracture due to narrowing of the shoulder girdle.

The typical deformity in this fracture is the inward and downward displacement of the outer fragment and slight upward displacement of the inner due to muscular pull and to the falling downward and inward of the shoulder carrying its outer fragment with it. The fractures are oblique transverse with impaction and greenstick. The oblique are the most common and produce the greatest deformity. The transverse show little tendency to displacement.

Hartshorn has had little satisfaction from the Sayre dressing and its modifications but considers Bellamy's adhesive dressing one of the best of this type. He prefers to use the splint devised by Fayette Taylor or a modification of this made by Peckham of Providence. The Taylor splint consists of a rectangular pad posteriorly which connects anteriorly with an adjustable aluminum splint the ends of which are on the coracoid process right and left. FRANK D DICKSON

Lemann, I I and Maes U: Artificial Pneumothorax in the Treatment of Lung Abscesses. *V Orl M & S J* 94 lx 11 By Surg Gynec & Obst

Lemann and Maes both claim that when an abscess of the lung is accurately located and when it is accessible unquestionably it should be treated surgically that is by incision and drainage. But oftentimes these abscesses are not easy to locate the physical signs are sometimes misleading and the exact site cannot be determined. The authors agree with Robinson who prefers the responsibility of finding the abscess rather than to risk operation at the late stage when the patient's resistance has been lowered during prolonged observation and repeated negative exploration. Recently the use of the fluoroscope and skiagraph have aided in locating these abscesses.

The accessibility of the abscesses is of the most importance and because of their inaccessibility in the majority of cases the authors recommend this method. Lemann has seen 4 abscesses of the lung one in the lower lobe of the left lung and the other 3 in the right infrascapular space. Each had been refused operation because of the inaccessibility of the abscess. Maes then thought this an admirable field for the application of the artificial pneumothorax to compress the lung and thus obliterate the abscess cavity.

This suggestion of using artificial pneumothorax to compress the lung in cases of abscess, though described some time ago does not seem to have met with the recognition it deserves and a search of the literature for the past seven years reveals only 5 references. Fontanini in 1910 reported the cure of a case which had persisted for six years but was cured in a few months by compression.

Isar Frank and Jagic also report great improvements in cases of bronchiectasis while on the other hand A Schmidt reports the results in 8 cases of bronchiectasis treated by artificial pneumothorax as being far from satisfactory claiming that the damage to the lung tissue is too great and that only in the early stages is this treatment beneficial.

In the case reported all the usual medicinal procedures had been tried out and because the case was inoperable it was decided to try this compression method.

The patient a colored female aged 22 was first seen Oct 11 1913. In June 1913 she had her tonsils removed and had never regained strength in the latter part of the same month she had had what was termed an attack of pneumonia and pleurisy. She recovered only after vomiting a large quantity of foul smelling pus. From that time on she was seldom free from fever and always had a cough and free expectoration. When first seen she was fairly well nourished temperature 100° and near the apex of the right lung in the right infrascapular region an abscess could be made out. The sputum was negative except for streptococci, and a skiagraph taken confirmed the diagnosis of cavity.

From October to January the patient went through a number of fever cycles she would empty the abscess cavity the fever would drop and she would improve for a while only to go through the same thing again. These attacks continued through February and in the latter part of March the pneumothorax compression was begun. At first only 500 ccm of nitrogen gas was injected but later as much as 1000 ccm was injected. The aim was to make repeated injections every week or two, and in that way keep the lung constantly and entirely compressed. As a result in this case the febrile attacks ceased the cough and expectoration diminished and the patient greatly improved in strength and appetite. A skiagraph demonstrated a complete compression of the right lung, with displacement of the heart to the left.

LEWIS B CRAWFORD

experiments justify the unconditional rejection of the teaching in regard to hyperfunction of the thymus

The author gives a critical review of the literature of the subject. Thymus extracts prepared in different ways show an absolute lack of effect in about 50 per cent of the cases and this cannot be explained by the method of preparation or in any other way. Such ineffective extracts do not influence blood coagulation *in vitro* while effective extracts overcome even a strong hirudin action. In animal experiments the blood coagulation in the heart and vessels resulting from thymus extract can be overcome or very much weakened by previously treating the animals with hirudin. On the other hand the blood can be coagulated by relatively small doses of extract when the maximum possible amount of blood is withdrawn from the animals and replaced by Ringer's solution. It is also noteworthy that the reaction of different animals to the same extract is different and that the effectiveness of the thymus extract which does not appear to be united with the cells is not markedly influenced by cooking but is inhibited by filtration. Section of the vagi does not influence the effect. Paralysis of the ends of the vagi by atropin does not produce a constant effect. By repeated application of small doses at short intervals animals may be rendered so insensitive to the effect of thymus that multiple of ordinarily fatal doses can be borne without any symptoms on the other hand repeated infusions at longer intervals lead to the development of anaphylactic symptoms.

BALK

Morgan H. J. and Dachtler H. W. Thymic Asthma Successfully Treated by X Rays.
S. G. Gynec. & Obst. 1914, 1: 78

By Surg. Gynec. & Obst.

The first case an infant aged 2 weeks had a history of colds and snuffles recently had two suffocative attacks dyspnea and cyanosis never complete absence of symptoms. Hypertrophied thymus was diagnosed by percussion and later by X rays. In the absence of adenoids enlarged bronchial glands, and other causes of laryngeal stenosis, a diagnosis of thymic asthma was made. Six exposures were made to X rays at a distance of twelve inches through a leather filter at intervals of two one and ten days respectively. At the first three and the fifth treatments one Holzknecht unit was given fourth treatment one half unit and last treatment one quarter unit. There was improvement in all the symptoms after the third treatment and a complete cessation after the sixth treatment.

A roentgenogram taken three weeks after the treatment was begun shows a normal thymus. During treatments complete aphonia occurred lasting twenty three days there was a loss of weight of five ounces.

Blood examination showed a reduction in the white cells from 15,000 to 7,000 and in eosinophiles

from 4 per cent to 2.5 per cent. There has been no recurrence of symptoms in four months.

The second case aged 18 months had at four months of age had dyspnea, cyanosis, and at four months had suffocative attacks. The child was always cyanosed. The attacks were brought on by exposure and handling.

Hypertrophied thymus was diagnosed by percussion and verified by X rays and after excision of other causes of laryngeal stenosis, a diagnosis of thymic asthma was made.

The treatment consisted of four exposures to X rays, at a distance of twelve inches, through a leather filter at intervals of two three and four days respectively the first three treatments one Holzknecht unit was given the last treatment one half unit.

Improvement in all symptoms was noted after the third treatment and completely disappeared after the fourth treatment.

A roentgenogram taken three months later shows a normal thymus. There has been no recurrence of symptoms.

TRACHEA AND LUNGS

Faunz M. Rupture of Tuberculous Tracheobronchial Glands into the Air Passages in Childhood (Über den Durchbruch tuberkulöser Tracheobronchialdrüsen in die Luftröhre bei Kindern). J. d. f. K. med. 1914, 1: 385

By Surg. Gynec. & Obst.

Faunz reiterates that tuberculosis in children is most frequently localized in the tracheobronchial lymph glands. It is almost always secondary to primary infection in the lungs. Sometimes the foci in the lungs are so small that they are overlooked but they are there nevertheless in the great majority of cases showing that the infection takes place by inhalation. He discusses the cases of rupture of tuberculous glands into the trachea and bronchi that have been reported in the literature, including 4 of his own previously published and describes in detail 4 additional cases of his.

The symptoms of pressure in the air passages are tough and difficulty in breathing. After rupture takes place there are attacks of suffocation. There may also be unilateral dilatation of the veins of the neck and slight edema of the face from the pressure. In addition to the ordinary clinical examination for tuberculosis roentgen examination of the glands should be made. Another important aid in diagnosis is direct tracheobronchoscopy but in children it is preferable to use this only as an introduction to treatment.

The treatment in mild degrees of compression may be only the usual treatment of tuberculosis sea air and heliotherapy are valuable adjuvants. Severe degrees of compression should be carefully watched on account of danger of rupture. After rupture has taken place tracheotomy should be performed at once followed by tracheobronchoscopy from below.

The caseous gland should be treated as a foreign body. The rupture at first is generally only a small one so there is abundant time for operative treatment before suffocation is fatal or even dangerous. Among 10 patients treated in this way 7 recovered and 3 died. The discharge of the gland through perforation is often the last act in the spontaneous healing of tuberculosis which is not at all unusual in children over two years of age increasing with advancing age. Therefore the prognosis is not bad. Only 2 of the 10 children showed signs of pulmonary tuberculosis later. If all cases of glandular tuberculosis were carefully followed the prognosis could be improved. A Goss

PHARYNX AND ESOPHAGUS

Francis W. A. Diverticula of the Esophagus
The Treatment of Cicatricial Stenosis of the Esophagus. Ch. 914. xi.
By Surg. Gynec. & Obst.

The author discusses the treatment of stenosis the chief symptoms of which consist of dysphagia. The treatment may be divided into medical and surgical. Medical treatment consists of feeding

with concentrated liquid foods. Water must be given per rectum especially in the cases of complete stenosis. Rectal feeding may be resorted to. To ease the pain and facilitate deglutition, opium and belladonna in glycerine may be given before feeding. Thiosinamine may be used as an auxiliary to the treatment of dilatation as the drug has a softening action on the scar tissue.

The author's surgical treatment consists of bloodless and operative dilatation. If the passage of sounds or filiform bougies is unsuccessful and the patient is becoming rapidly emaciated, a gastrostomy should be done. Soncin's and Mikulicz's modified method of Haeckner can be employed. This in brief consists of swallowing a silk cord which is fished out of the gastrostomy and used as a tractor to pull through graduated drains. Abbe uses a silk string to saw through the stricture which is held tense by a conical bougie. Ochsner uses a silk string by which he draws a rubber tube through the gastrostomy opening doubled into the stricture. Franks uses electrolysis with success. In internal esophagotomy death often results from hemorrhage. External esophagotomy is nearly always fatal. EUGENE CARY

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Fobes J. H.: Plan and Scope of the Lumbar Incision. N. Eng. J. Med., 94, 416, 638.
By Surg. Gynec. & Obst.

The author states that a satisfactory extirpation of the appendix and of the gall bladder can be carried out through the ordinary lumbar incision made as a rule for kidney operations. He states that the advantages of the lumbar incision are: (1) Hernia and many other complications of the anterior incision are practically unknown through the lumbar incision. (2) Through the lumbar incision it is not only possible but reasonably easy to perform satisfactory operations not only upon the kidney but also upon the appendix and gall bladder. (3) It is much better to clear up the pathology of the case through one incision than to make two incisions or to operate in two or three stages to obtain the same result. V. D. LESTER

Lewis E. G. Pseudomyxoma of the Peritoneum. Surg. Gynec. & Obst., 94, 11, 757.
By Surg. Gynec. & Obst.

Lewis reports a case of peritoneal pseudomyxoma which followed years after the removal of a lateral ovarian cystic tumor. At autopsy beside an ascites the omentum, the parietal peritoneum, and the peritoneal coverings of the abdominal viscera were extensively studded with implantation tumor metastases which consisted of masses of small cysts separated by a relatively scanty stroma

These cysts contained clear gelatinous material. Microscopically they were lined by a single layer of cuboidal flattened or cylindrical epithelium were separated by a fibrous stroma and contained homogeneous material staining with hematoxylin.

At an exploratory operation three months before death a considerable amount of ascitic fluid was removed which was examined chemically. This showed a considerable amount of albumin and globulin, but no mucin. After removing coagulable protein from the fluid pseudomucin was readily demonstrated by Hammarsten's method as follows. After evaporation to small volume five volumes of absolute alcohol were added and the resulting white precipitate filtered off and redissolved in distilled water. This was then hydrolyzed with HCl and after neutralization gave a well marked reduction of Fehling's solution.

Since no cases of pseudomyxoma of the peritoneum have been diagnosed prior to operation such a test for pseudomucin in the ascitic fluid of cases with obscure ascites especially when a pelvic tumor is suspected or when there is a history of a previous pelvic operation would be of value.

Drehman. Pancreatic Peritonitis. (Die Peritonitis pancreatica). Deutsche Gesellschaft f. Chir., 94.
By Zentralbl. f. d. ges. Chir., 1, Grenzgeb.

On the basis of experiment and study the author comes to the conclusion that the necrosis of fatty tissue that appears in acute pancreatitis is accompanied by a peritonitis. This peritonitis is at first

aseptic in nature but in its further course may become septic. It is distinguished from the ordinary septic peritonitis by its lack of tendency to extend and by its relatively benign character. It should therefore have a special name—pancreatic peritonitis. It appears in two forms an adhesive peritonitis or an exudative peritonitis with a hemorrhagic exudate. The latter form has a worse prognosis. The peritonitis is caused by the fat necrosis which is spread through the blood and lymph channels. The hemorrhagic exudate in the abdominal cavity therefore only transmits the pancreatic ferment in exceptional cases. The symptoms of ileus that appear in acute pancreatitis are to be attributed to the pancreatic peritonitis. Laparotomy under these circumstances can only indirectly influence the peritonitis by causing a hyperemia in the abdominal cavity. This hyperemia has a favorable effect on the encapsulation of the fatty necrosis; it furnishes better nutrition for the peritoneum; therefore recovery from the peritonitis may be hoped for.

KÖRTNER of Breslau from his experience gives a warning against using the pancreas to cover the duodenal stump. He believes the mortality is doubled by such a procedure. He has seen death from fat necrosis, hemorrhagic peritonitis and sudden death without anatomical findings result from the use of this method.

BERTELSHAW of Kassel says that the retroperitoneal space in which the pancreas lies must be incised.

KÖRTNER of Berlin has generally seen the exudative form of acute pancreatitis with a more or less bloody tint to the exudate. He has operated on 5 cases in the early stage and 4 of these cases recovered. In his last case there was a retroperitoneal phlegmon on the right side and bile in the abdominal cavity although no rupture could be demonstrated. Recovery followed extensive suppuration.

Fatty necrosis in the omentum is important only in the diagnosis in treatment it can be left to itself. The pancreas must be laid bare and operated upon directly. KATZ STERN

McLean J. B.: The Surgical Treatment of Diffuse General Peritonitis. *U. S. A. Med. J.* 94:1439. *Am. Surg.* 1918.

Since the adoption of the technique of the methods of Murphy in the treatment of this condition the mortality in the Brisbane Hospital has been largely reduced, and it is only rarely that a case is lost. The essentials of the technique are as follows:

1. Rapid elimination of the cause with the least possible handling of viscera.
 2. Tubular drainage of the lowest portion of the pelvis and free drainage through the incision.
 3. Elimination of all time consuming procedures.
 4. Fowler's position after operation.
 5. Salt solution per rectum.
 6. Nothing by mouth in order to prevent peritonitis.
 7. Opium only if necessary.
- The treatment adopted by the author varies

somewhat from the above. The focus of infection such as a ruptured bowel or gangrenous appendix should be removed but no attempt should be made to mop out the contents of the abdominal cavity. A tubular rubber drain with a wick inside and a gauze drain alongside is inserted down to the bottom of the pelvis through a low incision. The usual appendiceal incision will meet the case while a small drain is also placed at the focus of the trouble if the latter is not in the line of drainage. Ordinarily the operation does not take over 20 minutes and afterward the patient is placed in Fowler's position. Enemata are given on the second or third day, purgatives are avoided until the danger of peritonitis has passed. Saline solution is not used; the claim that it helps to increase the secretion of urine and reverses the current in the lymphatics of the peritoneum being difficult to understand. It will not always work satisfactorily; the patient is always uncomfortable and does just as well without it.

Fowler's position permits the septic abdominal contents to gravitate to the area where the drainage tubes will act freely and has the great additional advantage of largely freeing the patient from nausea and vomiting. As a rule the bed can be lowered on the third or fourth day and the patient kept in the sitting position for a few days. L. K. ARMSTRONG

Fowler R. H. Diaphragmatic Hernia. *Am. J. Surg.* 1914. 21:469. *By Surg. Gynec. & Obst.*

The case report and autopsy findings in a case of diaphragmatic hernia in a male patient aged 53 are here given by Fowler. The patient entered the hospital on the fourth day of his illness. On account of deafness and mental defectiveness a history of his illness was unobtainable. A sudden acute pain in the abdomen becoming more intense with time, no bowel movement for four days, vomiting several times daily since the onset of his illness and a slight rise of temperature were his chief symptoms. The abdomen was distended and tympanitic. There was no special point of tenderness over the abdomen. The liver and spleen were not palpable. With the aid of enemata the patient was able to pass some flatus and feces. The patient entered the hospital on the tenth day of October and died on the fifteenth day of the same month during which time he vomited daily, suffered pain and had distention of the abdomen. The urine examination was negative. There was a slight leucocytosis.

The autopsy findings were as follows: right sided hernia of the transverse colon and omentum through the diaphragm at the site of Larrey's space; diffuse peritonitis of the lower abdomen; multiple perforation of the sigmoid; gangrene of the small intestine; ulcer of the caecum; plastic peritonitis in the upper abdomen; adhesive pleuritis; chronic pulmonary oedema; chronic myocarditis; chronic parenchymatous nephritis; prostatic ulcer; chronic endocarditis of the aortic valve; aortic atheroma; bilateral corneal opacity and anterior hemorrhage. R. C. ROBERTSON.

Henson J W: A Proposed Addition to the Technique in the Radical Operation for Median Ventral Hernia Where the Tension on the Sutures Would be Excessive. *Int'l J S & 1943* 43 By Sg Gynec & Obst

The author makes a series of incisions each an inch or an inch and one half long directed outward and upward obliquely across the fibers of the aponeurosis of the external oblique just outside of the rectus muscle.

The intervals between the incisions should be such that the outer end of each incision will cut fibers just beyond the reach of the inner end of the one just below it in the series.

After closure of the hernial opening each incision will be shorter and will gape a little but the edges can easily be brought together by sutures. After healing there seems to be no weakness of the wall at this point.

HENRY J VAN D Y BERO

GASTRO INTESTINAL TRACT

Matus R. Hair Balls in the Gastro Intestinal Tract; Report of a Case with Special Reference to the Pre Operative and X Ray Diagnosis. *T S th S g & Gynec A Asheville 1943* D C By Sg Gynec & Obst

Matas exhibited a large hair ball (trichobezoar) removed successfully at the Touro Infirmary in May 1914 from the stomach of a young white woman, aged nineteen years who as a child had acquired the hair eating habit while suffering from uncinaria sis. On June 19 1914 the patient was discharged from the hospital completely recovered after operation.

The mass weighed two pounds three fourths ounce or approximately 967 grams. It was shaped like an inverted gourd and was molded to the contour of the stomach. In the dry state it measured 18 inches or 26 cms in its broadest circumference 8 25 inches or 20 cms around its middle portion and 8 25 inches or 7 cm in its narrowest circumference. The widest part filled the fundus of the stomach and the narrowest filled the pylorus and duodenum.

It consisted of a mass of matted black hair which when dry was felted and gave the appearance of the hair of a wild animal. Mixed with the hair were particles of earth and vegetable food stuffs which had gravitated to the center of the mass and were held in the tangle by mucoid and other organic matter. The mass not only filled the stomach in its entirety but was gripped tightly by the walls in many places. An incision 6 5 inches along the anterior surface of the organ was required to permit its extraction. When removed from the stomach it was covered with a thick almy coat of extreme foulness. The only space for the passage of food was a narrow interspace between the mass and the lesser curvature where fluids and semisolid foods could be forced from the cardia to the pylorus.

After discussing the history statistics and

clinical peculiarities of the gastric and intestinal hair balls and the results of surgical operations for their removal which were eminently satisfactory the author dwelt with special emphasis on the X ray and the pre-operative diagnosis of this rare condition. The great value of the fluoroscope and radiograph in the diagnosis was demonstrated by the exhibition of X ray plates of this case and the reports of the few cases in which X ray studies had been made in very recent years for diagnostic purposes.

By following the rules laid down by C Thurston Holland of Liverpool July 1913 and March 1914, it was comparatively easy to make fluoroscopic diagnosis not only of a gastric tumor but of an intragastric and detachable mass which if molded to the shape of the stomach would practically rule out any other condition but a hair ball.

Smithies, F. Gastric Cancer in the Young: a Study of Sixteen Instances in Patients Under the Age of Thirty-One. *J Am Med Ass 1943* 134 839 By Surg Gynec & Obst

Smithies' article concerns sixteen instances of gastric cancer occurring in patients under 31 years of age as collected in the study of the records of 721 pathologically demonstrated cases of cancer of the stomach at the Mayo Clinic and at Augustana Hospital. This is 2 2 per cent of cases in his series. In a statistical report by Welch the percentage was 2 8 in 150 cases analyzed by Osler and McCrea the proportion was 4 per cent.

Of the author's cases 9 were females and 7 males the youngest was 18 years of age the oldest 30. In 3 instances there was a family or blood relationship history of cancer. The average duration of the disability was 4 2 years.

In 38 per cent of the cases the appetite was poor all exhibited some degree of constipation and loss of weight was a marked symptom. The loss averaged from 17 to 35 pounds. Abdominal pain or distress was in some degree present in all although in 2 cases of primary cancer pain was never severe and never definitely localized. Abdominal tenderness was also present in all cases. Tumor was palpated in 38 per cent of cases. Eructation and vomiting were present in all cases. In 62 5 per cent of the cases altered blood was found in the stools. Retention of food was found in 73 per cent and the average total acidity was 59 the free hydrochloric acid being absent in but one case the average being 26. Lactic acid was demonstrated in 40 per cent of cases.

Abdominal section revealed 5 cases of pyloric involvement 9 of the lesser curvature 1 of the cardia and 1 of general carcinosis.

EOGENE CARY

Case J T. X Ray Evidence of Gastric Carcinoma. *Cand Med J 1943* 94 1066

By Surg Gynec & Obst

In view of the distrust and even ignorance prevailing concerning the value of X ray diagnosis of

gastric carcinoma Case submits a summary of the indications and advantages of this method

The normal stomach, into which a suspension of some opaque salt has been introduced presents a characteristic shadow subject to certain normal indentations viz

1 The splenic notch usually present at the upper border of the greater curvature and due to the pressure of the spleen against the greater curvature whereby one may judge as to the size of the spleen

2 The changes in the shape of the stomach shadow produced by the peristaltic waves are varying but characteristic, and are easily recognized under the fluorescent screen or by radiograms

3 The pyloric sulcus, the break between the shadow of the stomach and the shadow of the first portion of the duodenum — variously termed bulbous duodenal bulb stomach cap pilorus ventricle — is normally about one centimeter in width

Excluding these normal indentations any defect in the shadow must be regarded as suspicious of malignancy, and its identity should be determined In favorable subjects the screen study of the contour of the gastric silhouette is very satisfactory although even in these cases Case usually makes several radiograms as a matter of record In heavy patients, ten or twelve radiograms usually suffice Unsuspected gall and kidney stones have been discovered in this manner and in patients too heavy for favorable fluoroscopy the serial radiograms have made possible the discovery of relatively early carcinoma

Case refers to the symptom-complex of Holz knecht only to warn against its unreliability He has seen cases fitting perfectly into the symptom complex which at operation proved to be not malignant but due to adhesion band or to pressure of extraintestinal masses or to gall-stones and sometimes no pathology at all could be demonstrated

Thanks to a routine which requires that all patients about to be subjected to laparotomy be first submitted to a thorough bismuth meal examination of the entire gastro intestinal tract Case has been able to check at operation the X ray findings in hundreds of cases For instance in a patient operated upon for uterine fibroid the surgeon as a routine procedure at operation examines and records the condition of the gall bladder the pylorus the duodenum the appendix the terminal ileum etc so that the pre operative X ray findings negative or positive even though not directly relating to the object of the operation are corrected and future errors minimized

The symptom-complex method is unnecessary since serial radiography and when necessary cinematography affords us a means of studying intimately the contractility of the entire gastric wall and of excluding even very small indurating lesions Case records the statement that up to the present since he has been prepared by equipment and experience to make these thorough studies not a single case of carcinoma of the stomach to his knowledge

has been revealed at operation where previous X ray examination had failed to show an organic lesion There are cases particularly the early cases, where from the X ray examination alone it can only be determined that there is a mass The possibility of syphilitic and sarcomatous lesions or a tuberculous mass being present must also be considered A careful study of the gastric silhouette by means of the fluoroscope and a series of radiograms should permit a positive or negative opinion to be formed as to the presence of a filling defect

The filling defect may be characteristically irregular or otherwise definitely suggestive of carcinoma without the corroboration of clinical findings, but as a routine procedure all the evidences of clinical research should be added to the X-ray findings

The gross filling defect produced by a tumor of the lower half of the stomach on the greater or lesser curvature is usually obvious Characteristics are

1 Permanence The filling defect is of the same size location shape and outline at various observations

2 The filling defect usually coincides with a point of tenderness on pressure Absence of pain point does not lessen the importance of a filling defect

3 Screen examinations and serial plates show that peristaltic waves fade out as they reach the defect and if the defect is not too near the pylorus, reappear beyond it In inflammatory mass about an ulcer may give this sign

4 With a lesion near the pylorus even without direct tenous, antiperistaltic waves may be seen these are pathognomonic of organic lesion not necessarily malignant but with a filling defect very suggestive

5 Unless actual obstruction exists there is usually an early clearance of stomach contents in a manner characteristic of achylia

Case emphasizes the importance of complete gastro intestinal examination in every case of suspected gastric malignancy to rule out extension and metastases

In differentiation between benign and malignant pyloric tenosis Case finds a position with the patient lying on the right side the tube behind, and the plate or screen against the abdomen of value

In spite of the assurance often warranted in negative diagnosis of gastric malignancy it is striking that radiologists rarely diagnose early carcinoma of the stomach It is rare indeed that truly early carcinoma is seen at operation In hundreds of cases operated upon not more than a dozen of the gastric malignancies could be considered as early The morbid sensations produced by gastric malignancy are of such an indefinite nature that the patients seek medical aid only when it is too late for early diagnosis

The author suggests that the X ray test be made a routine procedure in examining every case presenting gastro intestinal symptoms,

D VM R BOWEN

Holding, A F The Röntgenologic Method of Differentiating Between Ulcer and Cancer of the Stomach and Duodenum 1m J M Sc 1914 cal 11 866 By S rg Gynec & Obst

The author gives a review of the literature and has constructed a very full and descriptive table to differentiate ulcer from cancer. He lays stress on the fact that to make a roentgenologic diagnosis of a gastric lesion that is in any way accurate a large number of pictures must be taken (serial roentgenography) which of course means added expense to the patient. His conclusions are as follows:

1 The roentgen method is the most accurate and at the same time the most expensive single method of diagnosing gastro intestinal lesions. It is also the safest and most valuable to the patient.

2 A pre-operative roentgen examination in abdominal cases (1) will save many a patient from the shock of an exploratory operation (2) should shorten the time duration of the operation (3) should improve surgical statistics.

3 An exploratory operation for diagnosis is usually evidence of inadequate roentgen methods.

4 A post-operative roentgen examination of abdominal cases will lead to important modifications in the technique of such operations just as post treatment roentgen examination of fractures has modified general surgical measures.

5 Schmieden states A scientific diagnostician will not diagnose gastric lesions on roentgen ray examinations alone nor should he diagnose important gastric lesions without using the roentgen rays.

LUCIA H LANDRY

Wilson L B and McDowell I F A Further Report of the Pathologic Evidence of the Relationship of Gastric Ulcer and Gastric Carcinoma Am J M S 9 4 1 6 By Surg Gynec & Obst

The authors report 445 pathological specimens of gastric carcinoma received in the Mayo laboratory during the past nine years 46 of these were removed at autopsy 399 were dissected by the surgeon.

The latter were classified into four groups:

1 Ulcer with cancer questionable

2 Ulcer with beginning cancer

3 Ulcer with advanced cancer

4 Cancer throughout the lesion

1 The significance of this group comprised of 19 cases, is that four have died of carcinoma.

2 Of 41 cases 18 have died of carcinoma 6 in less than 30 days the remaining 12 lived an average period of twenty eight months after operation.

3 Of 94 cases 58 have died 18 in less than 30 days the remaining 40 died an average period of 14 months after operation.

4 Of 97 cases, 78 have died 38 in less than 30 days after operation the remaining 44 died on an average of 14 months after operation.

The clinical and pathologic data in relation to the development of gastric cancer or gastric ulcer are in close agreement (1) with regard to the average

age at operation (2) with regard to the average period of previous history suggestive of ulcer and (3) with regard to the average number of months of acute history. Such an agreement of data from two independent studies of this series of cases is not accidental.

From a careful study of the clinical and pathologic evidence of this series of cases it seems probable that gastric cancer rarely develops except at the site of a previous ulcerative lesion of the mucosa.

HELVY J VAN DER BERG

Küttner H Surgery of the Stomach Based on One Thousand One Hundred Cases Treated in Seven Years (Z Chirurges des Magens auf Grund von 1001 Jahren behandelten Fällen) A h f M Ch 1914 cv 789 By Surg Gynec & Obst

Küttner states that 10 per cent of all his surgical work at Breslau in the last seven years has been on the stomach. In a total of 1100 stomach cases two thirds were malignant and only 10 per cent of these were operable. The proportion of operable cases was lowest in patients who came from private practice. One woman had been in the hospital for a year on account of multiple cysts in the upper third of the femur first on one side and then on the other. Autopsy showed that the cysts were metastases from a gastric cancer which had been entirely unsuspected although the woman had been under supervision during all that time.

Malignant disease of the stomach at a distance from the pylorus causes achylia and mechanical conditions like those artificially induced by a gastro-enterostomy. This explains why cancer of this kind can exist so long without attracting attention. In 15 per cent of Küttner's cancer cases there had been preceding stomach trouble but whether gastritis ulcer or achylia is not known. In one case both a cancer and an ulcer were found in the stomach and in another five or more separate cancers.

The operable cases generally had a longer history of disturbances than the inoperable ones. Roentgenoscopy was usually disappointing except when it revealed inoperable conditions. The Gluczninski method of differentiation proved reliable. The later the pain develops after eating the nearer the pylorus the lesion is found.

The author resects only when cancer cannot be excluded with absolute certainty that is to say he performs resection in every case of tumor forming callous ulcer as he is convinced that this ulcer is in reality of cancerous nature. The fear of transformation of other forms of gastric ulcer into cancer is not borne out by his experience. Later in his 120 cases there were only two in which cancer developed and the ulcer was of the callous type. After hemorrhage from an ulcer treated by gastro-enterostomy was responsible for the death of one patient and also for that of another treated by resection. Perforation did not occur after gastro-enterostomy in any instance and the ultimate outcome was a

peritoneum and thus pull up all the abdominal organs especially with forced expiration and concomitant retraction of the belly wall

The duodenum is ordinarily seen as a C shaped sausage-like tube with a smooth walled pars superior and a pars media and pars inferior marked by their Kerkringian folds. The author shows a duodenal variant. The peristalsis in the normal duodenum starts just beyond the bulbous the time of a complete peristole varying in the individual case from 5.5 to 7.5 seconds. The injection of 0.5 per cent hydrochloride is not an excitant of duodenal peristalsis.

The advantages claimed for these methods of filling the duodenum with clamping off of the duodenojejunal flexure are (1) more complete filling of the duodenum with the exception of the bulbous (2) observation of the peristalsis and the mobility of the duodenum fluoroscopically (3) more exact determination of the location of the tender points (4) observation of niches and defects in the duodenal picture (5) diagnosis and differentiation of duodenal adhesions or variants (6) dislocation due to extraneous causes e.g. pancreatic tumor.

Lippman believes that the ordinary examination in different positions of the body the observation of Cole's duodenal defects fluoroscopically with the aid of the Bucky effect and effleurage with compression at the duodenojejunal flexure are the most practical methods for rendering duodenal diagnosis more perfect. The duodenal tube method of filling is only necessary in rare cases and was originally used for the sake of anatomical exactness.

Vance J: Intussusception in Children 1/1
M J 194 xiii 45 By Surg Gynec & Obst

Seven cases are reported. In one case the intussusception occurred in an inguinal hernia which contained the incarcerated bowel. This child made an easy recovery. The condition was probably produced by the use of castor oil. In three cases the diagnoses were made early and the patients immediately operated upon. All recovered. The other four cases died in all of which the diagnosis was made late or the parents refused operation when it was first advised.

The following conclusions are reached by the author:

The tender age of infancy *per se* is not a barrier to abdominal section.

Reduction of the intussusception by laparotomy in competent hands gives better results at all ages than any other methods.

When the physician is familiar with the condition the diagnosis can and should be made with rare exceptions within 7 hours of the onset.

When operation is performed within 17 hours of the onset the general mortality will not be over 10 per cent. When operated on by the best surgeons the mortality will not be over 5 per cent with the same early diagnosis. No resections will be required in this class.

Late diagnosis and operation mean many resections and high mortality.

On account of its comparative rarity intussusception although clearly marked and easy of diagnosis is more frequently overlooked and mismanaged than any other serious affection occurring within the abdomen.

EDWARD L. CORNWELL

Wilkie D P D Acute Appendicitis and Acute Appendicular Obstruction B M J 914
959 By Surg Gynec & Obst

The author offers a contribution in regard to the pathology of the early stages of acute appendicular trouble. Wilkie says that primary inflammation and primary obstruction of the appendix are clinical entities and as such should be differentiated. This was not possible years ago when it was customary for surgeons to have to deal with secondary effects of acute appendicular trouble. In acute appendicular obstruction there is sudden onset; pain may be constant or intermittent; vomiting is usual; tenderness over the appendix is present in greater or less degree. Here pulse and temperature are not dependable but as a rule there is no appreciable increase in either. The bowels may act. The causes of this obstruction may be either fibrous stenosis of the appendix or acute kinking by a band or fold. Experiments were carried on the ileum of the cat being used. A loop was formed by severing with the cautery the ileum 5 inches from the ileocecal valve and invaginating this end of the loop. This was again cut one inch from the ileocecal valve invaginating this. The cut end of the ileum was then anastomosed to the caecum. Observation showed that (1) the loop was empty except for mucus and bacteria (2) it was filled with caecal content—animal on carbohydrate diet (3) it was filled with caecal content—animal on rich protein diet (4) it was filled with emulsion of bacteria grown from caecal content. In the first group the animal may live in the second the result is more serious but not especially rapid but in the third a violent reaction ensues and the animal is usually dead in 20 hours in the fourth no violent reaction is seen and if the animal be killed in 48 hours the loop presents an almost normal appearance.

Wilkie's conclusions are as follows:

1. Two acute pathological processes are met with in the vermiform appendix: acute appendicitis and acute appendicular obstruction.

2. Clinically acute appendicitis is distinguished by the signs of inflammation there being from the onset a rise in pulse and temperature. Acute appendicular obstruction gives rise to vomiting, colicky pain and abdominal tenderness but at the onset to no appreciable rise in pulse or temperature.

3. The changes occurring in an appendix the lumen of which is completely obstructed depend on the presence or absence of faecal matter within its lumen.

4. In experimental obstruction in an artificial appendix the changes vary greatly according to

of proper length near the cæcum to reach comfortably from the cæcum to the sigmoid. The direction of this segment is then reversed in accordance with the prostatic wave law of the small intestine so that the proximal end is anastomosed with the cæcum and the distal end parallel with the ileum for a short distance forming a double barrel anastomosis this is then anastomosed with the sigmoid. The material is in this way able to pass from the cæcum to the sigmoid but cannot reverse its direction.

They also illustrate the interposition of a prostatic ileac segment between two divided ends of the sigmoid to prevent reflux after the usual operation for ileosigmoidostomy. They show a third figure of ileosigmoidostomy with an overlapping of sigmoid to block anastomosis.

HENRY J VAN D. BERG.

LIVER, PANCREAS, AND SPLEEN

Nichols H J: Observations on Experimental Typhoid Infection of the Gall Bladder in the Rabbit. *J Exp Med* 94 73.
By Surg Gynec & Obst

In recent years the question of immunity following antityphoid vaccination the typhoid carrier problem and the possibilities of chemotherapy have restimulated the investigation of experimental typhoid infections in lower animals. Therefore the author in this paper has considered the following subjects:

- 1 Pathogenicity of a living sensitized vaccine
- 2 Pathogenicity of the first transplant from a living sensitized vaccine
- 3 The regular production of lesions
- 4 The gall bladder lesion as a test of immunity
- 5 The curative effect of vaccines
- 6 The practical bearing of experimental work

In his experiments the author used ninety-seven animals and forty gall-bladder lesions were observed. The experiments showed that typhoid bacilli can be isolated from the organs for some time after injection but that the gall bladder lesion is the most persistent source. After intravenous injection the gall bladder apparently becomes infected by way of the blood stream as well as from the bile. The result may be summarized as follows:

1 Bearded's living sensitized vaccine given intravenously does not produce a typhoid lesion of the gall bladder in the rabbit.

The first transplant of this vaccine is capable of producing this lesion hence this vaccine is not entirely safe to handle.

3 Regular infections of the gall bladder have not been produced by carrying a known pathogenic strain on rabbit blood agar by successive passage through animals or by the use of freshly isolated strains.

4 No evidence could be demonstrated in the rabbit of the immunity produced in man by vaccination with an entirely killed vaccine.

5 Vaccine treatment did not cure the gall bladder lesion.

6 With the present methods of producing infections in the chimpanzee and the rabbit neither of these animals is suitable for deciding the problems of the immunization of man by vaccines. These problems must be settled as some of them already have been settled by actual experience with large numbers of men kept under close observation.

GEORGE E. REILEY

Deaver J B: The Surgical Treatment of Cholecystitis. *Therapeut Ges* 94 xxviii 778.
By Surg Gynec & Obst

In Deaver's experience cases of cholecystitis accepting the suppurating gangrenous and phlegmonous types recover from the acute attack if properly handled. The patient should be kept in the sitting position should have absolutely nothing by mouth in the presence of a localized or diffusing peritonitis until there is restoration of peristalsis. Ice should be kept on the abdomen a saline solution should be constantly used by the Murphy method in the presence of vomiting no medicine should be given but the stomach should be cleansed by lavage. This is also the line of treatment to be observed in acute cholecystitis occurring in typhoid fever. It is preferable to operation.

Operation is indicated in the graver forms of cholecystitis in the absence of diffusing peritonitis. In the presence of diffusing peritonitis operation should be delayed until this has subsided when the gall bladder should be removed. The advantage of removal over drainage of the gall bladder lies in the prevention of serious infection of the liver and pancreas. The question of the use of drainage as against removal of the gall bladder is a very important one and should be governed by the amount of disease of the gall bladder and the presence of enlarged lymph glands along the common duct especially the chain at the junction of the common duct and duodenum.

Chronic cholecystitis with recurrent attacks in the absence of other symptoms certainly warrants operative interference. Little faith should be placed in medicine or the treatment at various watering places. On the contrary many more people would be benefited and there would be fewer cases of diabetes chronic pancreatitis and chronic liver disease if instead of going to watering places the patients would consent to an operation.

EDWARD L. CORNELL

Clark J G: Ultimate Result Secured from Surgical Intervention in Simple Cases of Cholelithiasis and in Cholelithiasis Discovered During Operations for Other Conditions. *Am J Med S* 94 cxlvi 65.

By Surg Gynec & Obst

Clark reports 159 cases of gall-stones, nearly all of which gave some symptoms contrary to the old teaching that in most cases they do not pro-

duce symptom. Many excellent practitioners still exhibit a tendency to delay surgical intervention until the classic attack—terminal rather than initial indications—sets in. The author presents two groups of cases in tabular form: one of cholelithiasis alone, the other associated with gynecological conditions. He finds that less favorable results occur among the combined cases with the ratio of cures in direct proportion to the severity of symptoms. The weight of evidence emphatically favors the early removal of gall stones, also the removal of gall stone associated with abdominal or gynecological lesions and as contradicted because of the condition of the patient, the nature of the operation, the septic condition of the primary operation, etc. Of this group of cases there were 6 deaths, 4 of which were directly due to the destructive results of advanced cholelithiasis, as advanced pancreatitis and cholemia, the other two died of infection in directly as a result of the operation. In none of the combined operations in which there were no symptoms attributable to gall stones did a fatality occur.

Symptoms referable to the upper abdomen in conjunction with gynecological lesions are usually due to gall bladder pathology, rarely to gastric or duodenal ulcers—in the author's cases in the ratio of 100 to 1. Appendiceal involvement, however, is not such an infrequent factor in symptoms of the upper abdomen.

Clark has little faith in the belief that residual symptoms in the upper abdomen emanate from gynecological lesions, but believes in locating the symptoms anatomically and then seeking for the lesion in that locality.

From a review of his series of cases he concludes that simple drainage is sufficient in cases of cholelithiasis in which there are no symptoms indicating the presence of stones. In all other cases, however, in which the gall bladder is thickened or greatly dilated or if it is the seat of the so-called straw-berry change, cholecystectomy will be the operation of choice. He emphasizes that mercurial drainage does not have a formally believed cure every case of cholecystitis.

H. R. J. VAN DEN BERG

Canaday J. F. Spontaneous Rupture of the Tubercular Spleen. *T. S. Th. S. G. & Co.*
Is. Ashe. U. 94 De. B. S. G. C. C. & Obst.

Primary tuberculosis of the spleen is an unusual condition and when it does exist is well recognized in time to secure satisfactory operative results. A few surgeons have removed the spleen for primary tuberculosis and the results with the operation has been so altogether beneficial as to give rise to a light only one previously reported case of spontaneous rupture of the tubercular spleen—that reported by Aufrecht, which was found post mortem.

Canaday reports a case of tubercular spleen

which ruptured spontaneously and was treated operatively by splenectomy. The rent in the spleen was 7 cm. in length and 1.5 cm. in thickness at its deepest part. The tail of the pancreas was slightly adherent to the spleen and there were a few dark clots showing a previous rupture under the capsule. There were a number of caseous masses in the spleen. The patient made a fair operative recovery and died later of renal tuberculosis.

Minor C. R. Nitrogen Metabolism before and after Splenectomy in a Case of Pernicious Anemia. *B. J. J. & H. P. H. 914. 1914.*
335. By S. R. Gynec. & Obst.

The author describes a case of pernicious anemia which had showed no improvement for three months after splenectomy. There followed an improvement in the blood picture and general condition. Before operation there was a loss of 0.78 gr. daily in the nitrogen output, whereas following operation there was an average retention of 0.6 gr. He suggests the following possible causes for this difference:

1. Removal of toxic causes of loss of nitrogen.
2. Slight fever before operation.
3. The patient may have been in Rosenquist's period of nitrogen loss before operation and afterwards in a period of retention.

He also finds the urea output low before operation which he suggests may be due either to deranged liver function or to anemia as suggested by Padon. No change was noticed in the ammonia of the urine. Urobilinogen, which was present before operation, disappeared after the operation.

HENRY J. VAN DEN BERG.

Graf P. Surgical Treatment of Hemolytic Icterus (Zur Behandlung der Hämolytischen Ikterus). *Dr. L. & Z. Chir. 1914.*
C. 462. By Surg. Gynec. & Obst.

The surgical treatment of hemolytic icterus consists of course in the removal of the spleen. Graf comments on the familial character of this disease and the blue color of demonstrable bile pigment in the urine while it is present in the blood. The second generation feels the effects more severely than the first generation affected. Some are born with jaundiced tint, others develop it later. Hemolytic jaundice differs from B. S. disease chiefly in its familial history and the exceptional fragility of the red blood corpuscles. In B. S. disease the jaundice stage is comparatively brief.

He reports the case of a family with 13 living children in which the father and six of the younger children presented the typical syndrome of hemolytic icterus. The argument of the spleen preceded the jaundice by several months and the general health fluctuated with the use of the spleen. The two girls who seemed most seriously affected were treated by splenectomy with great benefit.

The spleen was removed also from a man of 38 with typical hemolytic jaundice. The family history in this case was not known but the jaundice

had been noticed for nine years. The results a year later in these cases show the value of splenectomy in hæmolytic jaundice in adults. In a girl of 12 the red cells have increased to almost seven million and time alone will tell how the child is going to bear this polycythæmia. Splenectomy therefore should not be advised for a child unless severe disturbances make it necessary. A Goss

MISCELLANEOUS

Fobes, J. H.: Personal Observations upon the Value of Pain Symptoms and Tenderness-Touch Diagnosis of the Abdominal Organs. *Chir.* 19 4 XXXI 108 By S. F. Gynec & Obst

The author has found that touch diagnosis has been of great service in bringing out lesions of the various organs concerned. For instance in eliciting gall bladder troubles, a line is drawn from the

ensiform cartilage to the anterior superior spine of the ilium then another line is drawn from the cartilage of the ninth rib to the navel. Where these lines cross percussion is made with the bent middle finger.

In perforated gastric ulcer the peculiar burning pain over the gastric area quickly following a perforation followed by excessive rigidity and extreme tenderness is distinctive. Soon the pain and tenderness radiate to the lower right quadrant as the gastric contents pass down between the omentum and anterior abdominal peritoneum. While gastric ulcer usually perforates anteriorly duodenal ulcer usually perforates posteriorly. For this reason and because the chemical reaction of the contents is mostly alkaline perforation of the duodenum is not associated with such severe symptoms. In fact the condition may be confused with appendicitis.

EUGENE CARY

SURGERY OF THE EXTREMITIES

DISEASES OF THE BONES, JOINTS, MUSCLES, TENDONS, CONDITIONS COMMONLY FOUND IN THE EXTREMITIES

Ostheimer M.: *Fragilitas Ossium*. *J. Am. M. A.* 9 4 LXII 1996 By Surg. Gynec & Obst

This disease is known by many names such as "osteopathic osteoporosis," *osteoporosis imperfecta*, *dysplasia periosteale* and *achondroplasia* all signifying multiple fractures occurring before birth and after birth. The author has used the term *fragilitas ossium* to include (1) the fetal type found at or soon after birth associated with imperfect bone formation and multiple fractures the cases rarely surviving their second year and (2) the congenital type found in children at birth or later with recurrent fractures even in early adult life the patient surviving the disease but being left in a badly crippled condition.

The condition is more common in males than in females the greatest number of fractures occurs between the ages of 1 and 3 years a small percentage being reported up to 4 years of age—the femur being the common seat of fracture. The bony pathology shows a lack of formative power the bone trabeculae being produced by calcification of cartilage cells. Metaplasia of cartilage is greater than normal while bone deposition is less the periosteal bone is abnormally thickened and incomplete.

Few osteoblasts are found a deficiency of calcum salts is also noted. The length of the bones is normal but their thickness is less than normal. Various writers agree that this disease is unlike rickets and the etiology is unknown. Most agree that a faulty metabolism exists in the mother during pregnancy.

Treatment other than absolute rest of the patient and immobilization of the affected bone and good

hygiene has little or no effect on the disease. One case reported by the author shows all the head measurements below normal. H. W. MALTBY

Schmerz, H.: Heliotherapy of Surgical Tuberculosis (D. Heliotherapie de chirurgisch. T. ber. k. lose in der Ebene). *Beitr. z. kl. Chir.* 9 4 XXI 38 By Surg. Gynec & Obst

Heliotherapy represents the optimum of climato-therapy. The sunlight treatment of surgical tuberculosis which has given the best results in mountainous districts and on the seashore gives satisfactory results also on the plains and even in large cities. Heliotherapy should form the basis of all treatment of cases of surgical tuberculosis in the lowlands as well as in the cities. A satisfactory explanation of the effect of sunlight on the human body in healthy and diseased conditions cannot be given at the present time in the absence of extensive experimental research. The effect of solar energy on tuberculous tissue and the rôle played by the resulting cutaneous pigment cannot be definitely explained.

Schmerz reports in detail the sunlight treatment of 34 cases of surgical tuberculosis principally of the bones, joints, glands and skin. Eleven were cured, 9 improved and 4 died. The results were not as brilliant as those reported by Rollier in the highlands but they were in the main very satisfactory. Supportive measures are indicated as proper diet, iron, arsenic and in the cooler seasons codliver oil with phosphorus. Freund's radiotherapy of surgical tuberculosis should also be used in appropriate cases. Finally surgical and orthopedic measures should be undertaken where indicated. Schmerz urges the erection of special sanatoria for the sunlight treatment of surgical tuberculosis.

E. P. ZEISLER

Keppeler W and Trkes F Treatment of Tuberculous Focus in the Neck of the Femur (Z Beitr zur Handl g d r t herkulosen Knoche n rd in S henkthal) A ch f kl Ch 914
v 329 By Surg Gyn & Obst

From a study of the r own cases and those reported in the literature the authors come to the following conclusions

1 Operative removal of the tuberculous focus is to be preferred to the conservative methods hitherto used if (a) the focus is solitary and the joint free (b) if the focus is solitary and there is sympathetic not specific involvement of the joint (c) if the focus is perforated and there is secondary involvement of the joint in the form of a mild synovitis.

2 If the focus is perforated and there is severe destructive involvement of the joint conservative treatment or resection should be chosen depending on the case No sharp boundary line can be drawn between the mild and severe cases and the surgeon must decide in each case

3 The advantages of operative removal are that the disease is shortened and the danger of perforation into the joint is removed

There are two methods of operation (1) curetting out the focus by boring through the neck at the trochanter and (2) removal of the focus by opening the joint anteriorly by Lücke Schele's method The first is to be recommended if the focus is near the trochanter if there is an abscess or fistula in the trochanter region or if the joint is free The second is preferable if the focus is near the apex of the neck if there are abscesses or fistulae anteriorly or if the joint is involved The dangers of opening the joint are not so great as might be supposed The advantages are (1) that it is a complete radical operation (2) it gives the surgeon a free hand if he finds the pathological changes more extensive than he had suspected and (3) it seems to follow the path indicated by nature as abscesses and fistulae so frequently open anteriorly The coxa vara that sometimes appears as the result of the operation or the slow regeneration of bone may be avoided by keeping the leg in a plaster cast for a long time

Six cases are described in detail and are illustrated with 20 roentgen pictures The article is followed by an extensive bibliography A Goss

Skilleen Jr P G: Certain Minute Cyst of the Metacarpal Bones Following Trauma Their Clinical Recognition J Am M A 94
1 2272 By Surg Gynec & Obst

Cysts of the short bones of the extremities have received little or no attention The author describes two cases following trauma Both were about the size of a pea and were difficult to locate by X-ray One was in the head and the other in the base of a metacarpal There was no enlargement of the bone and no signs of inflammation Pain was persistent and there was tenderness A convincing character which simulated that of a subperiosteal fracture and for which the first case was at first mistaken

There was the clinical picture of a chipping fracture with lingering signs because untreated Operation relieved the symptoms at once

The author believes that they were very early case He does not offer any observations as to the pathology but says the slight trauma was sufficient to cause fractures of the delicate normal bone trabeculae produced effusion hemorrhage and interference with nutrition thereby setting up a localized osteomyelitis The pigments of the blood were absorbed leaving clear contents just as occurs in cysts of soft tissues

The author offers the following conclusions

1 Cysts of bone should be detected in their incipient stages before extensive destruction of the medulla has taken place

2 Early operation results in prompt cure and prevents deformities and stenotic bone plastics

3 A localized trauma followed by persistent but not severe pain and localized but not true wrenching tenderness—symptoms and signs of an untreated chipping fracture—should arouse clinical suspicion of a minute early bone cyst The corroboration of which may be afforded by close scrutiny of a roentgenogram at the site corresponding to that of the localized tenderness

Vaccines O'Reilly

Nicoll H K: The Use of Anti streptococcus Serum in Chronic Arthritis J Am M A 12 104
12 225 By Surg Gynec & Obst

The serum used a horse serum was prepared with a polyvalent specificity an attempt being made to take advantage of the passive immunization to increase the opsonic index Varying doses of 20 to 30 ccm were administered but anaphylaxis in some made it advisable to use gradual increases successive doses of 2 6 8 10 and 12 ccm given more frequently

The administration was given subcutaneously in the scapular region A large needle was used and every effort made to avoid possible infection into the veins Twenty cases ranging from 22 to 56 years of age all having polyarticular involvement were treated Vaccines autogenous if possible were used with the serum and found to act complementary to it

Some few patients experienced anaphylactic shock but the greatest discomfort was urticaria with some herpes about the site of injection The injection given during the declining stage of opsonin was more likely to be followed by anaphylaxis The conclusions are

1 The administration of horse serum may be followed by anaphylaxis in 25 per cent of cases

2 The timing and aging of serum fails to remove its toxicity

3 An estimation of the immune bodies showed no advantage over the use of antiserums of less potency commercially prepared Acute streptococcus infections occurred in 2 cases

4 Concentrated serums were not successful

5 The use of antistreptococcus serum in the treatment of chronic arthritis is neither advisable nor justifiable
H W MALTSBY

FRACTURES AND DISLOCATIONS

Winslow N Intra Articular Fracture Fixation
Report of Two Cases Maryland M J 1914
Ivu 289 By S rg Gynec & Obst

The author reports two cases of intra articular fracture fixation by means of wire nails. The first was a fracture through the head and anatomical neck of the humerus in an adult and the second a separation of the lower humeral epiphysis in a child three years of age. In each case the joint was opened and approximation of the fragments was secured by nailing. He believes that all intra articular fractures which cannot be handled otherwise should be screwed or pegged from the articular surface.
ARTHUR J D VIDSON

Hawley G W Ununited Fractures with a Study of Bone Repair Am J Orth S 9 4 xu 45
By S rg Gynec & Obst

The extraordinary reparative power of bone is well stated in the expression that fractures unite with treatment without treatment and in spite of different methods of treatment. The process of repair in bone differs from that of other tissues only in that the cells which effect the repair have the property of depositing calcium salts. The hemorrhage incident to a fracture and common to all repairs of tissue is the first step in healing. On the framework of the fibrin clot which bridges between the two fragments the new tissue grows and the specialized cells lay down the lime salts. Some of the author's conclusions from an experience with 53 cases of non union out of 1200 fractures are:

Accurate approximation is the best prevention of imperfect union.

Excessive hemorrhage interferes with the repair. The periosteum protects the inside repair from intrusion of connective tissue growth from without.

The importance of coincident disease as syphilis and malignancy in preventing union has been exaggerated.

Freshening the edges injectio of chemical irritants and massage are not indicated.

Bone transplantation is the operation of choice.

Of 53 cases 37.74 per cent were cured by simple methods. Fifty nine were operated upon. Conservative treatment consists in reimmobilization and where possible weight bearing. In the latter procedure the object sought is to stimulate calcium deposit by function and not to produce the so called friction of fragments. Of the 15 operative cases plates were used in 6, bone grafts in 6, screws in 2 and merely freshening of edges in one. In these 53 cases no failure of union in an infected compound fracture was observed. Out of 8 cases of fracture in carcinoma of the bone only one failed to unite.
W A CLARK

Wagner K. Fractures of the Diaphysis of the Femur (Die Frakturen der Femurdiaphyse)
Dissertatio Charlov 1914
By Zentralbibliothek des Char u. Grenzgeb

In the course of 6 years Wagner has observed 863 fractures at his institute. Of this number 651 were fractures of the extremities, among them 117 of the femur, 93 being simple fractures of the diaphysis. The latter form the material for the author's monograph. Seventy two pages are devoted to a discussion of the anatomical side of the question and from the literature and his own experience he comes to the conclusion that transverse and spiral fractures are most frequent and the primary dislocation of the fragments is caused by the mechanism of the trauma. The process of healing is exhaustively discussed and he finds that if the roentgen picture shows a diastasis between the fragments it indicates that there is interposition of muscle and in such cases the possibility of a pseudarthrosis must always be borne in mind.

In the last chapter he discusses the treatment of fracture of the femur. First he takes up the ambulatory treatment of these fractures by Volkowitsch's method and decides that it is inadequate on the basis of 11 years use of von Bruns splint he designates the results of this treatment as mediocre. Codivilla and Dollinger's methods are also rejected. Passing to extension methods which he thinks are the only justifiable ones he discusses Zuppinger's splint first. From his own experience he finds that the correction of lateral dislocation is difficult especially that of the dorsal lower fragment other wise he thinks the method is a good one.

After discussing Henschen, Hennequin, Heusner and Vorschutz's splints Bardenheuer's method which he thinks is of great importance is described in detail. The experience of the medico mechanical institute with Steinmann's nail extension is thoroughly reviewed. He reports 59 cases of nail extension in which there were no complications either supuration or fistule. He is an ardent advocate of Steinmann's method for the following indications: (1) all fractures of the femur with great dislocation; (2) fractures near the trochanters; (3) old and incorrectly healed fractures; (4) operative fractures with great dislocation in the long axis; (5) all cases in which changes in the skin seem to contra-indicate the use of plaster. In general he is better pleased with the Steinmann method than with any other method of extension.

Hess's apparatus is considered of value in the treatment of recent fractures and as indicated in old fractures that do not show a tendency to heal well. Operation is indicated if non-operative methods fail and also in pseudarthroses. The clamp method and Lane's plates are deserving of consideration. From the material of the institute the following figures are given. Steinmann's method was used 59 times combined in 2 cases with operation. Among the cases in which the nails were used 6 were afterwards operated upon — 2 clamps, 2 Lane

Heppler W and Irkes F: Treatment of Tuberculous Foci in the Neck of the Lemur (*Propithecus*). *Bull. de l'Association française pour l'Etude du Cancer* 1940; 29: 339. By S. rg. Gj. c. & Obat.

From a study of their own cases and those reported in the literature the authors come to the following conclusions:

1. Operative removal of the tuberculous focus is to be preferred to the conservative method hitherto used if (a) the focus is solitary and the joint free (b) if the focus is solitary and there is sympathetic not specific involvement of the joint (c) if the focus is perforated and there is secondary involvement of the joint in the form of a mild synovitis.

2. If the focus is perforated and there is severe destructive involvement of the joint conservative treatment or resection should be chosen depending on the case. No sharp boundary line can be drawn between the mild and severe cases and the surgeon must decide in each case.

3. The advantages of operative removal are that the disease is shortened and the danger of perforation into the joint is removed.

There are two methods of operation: (1) curettage out the focus by boring through the neck at the trochanter and (2) removal of the focus by opening the joint anteriorly by Lücke-Schede's method. The first is to be recommended if the focus is near the trochanter; if there is an abscess or fistula in the trochanter region or if the joint is free. The second is preferable if the focus is near the apex of the neck; if there are abscesses or fistulae anteriorly or if the joint is involved. The dangers of opening the joint are not so great as might be supposed. The advantages are: (1) that it is a completely radical operation; (2) it gives the surgeon a free hand if he finds the pathological changes more extensive than he had suspected and (3) it seems to follow the path indicated by nature as abscesses and fistulae so frequently open anteriorly. The complications that sometimes appear as the result of the operation or the slow regeneration of bone may be avoided by keeping the leg in a plaster cast for a long time.

Six cases are described in detail and are illustrated with 20 roentgen pictures. The article is followed by an extensive bibliography. A. Goss.

Skellern Jr P G: Certain Metacarpal Cysts of the Metacarpal Bones Following Trauma. Their Clinical Recognition. *J. Bone & Joint Surg.* 1940; 22: 72. By S. rg. Gj. c. & Obat.

Cysts of the short bones of the hand are received little or no attention. The author describes two cases following trauma. Both were about the size of a pea and were difficult to locate by X-ray. One was in the head and the other in the base of a metacarpal. There was no enlargement of the bone and no signs of inflammation. Pain was persistent, and there was tenderness of a wincing character which simulated that of a subperiosteal fracture and for which the first case was at first mistaken.

There was the clinical picture of a chipping fracture with lingering signs because untreated. Operation relieved the symptoms at once.

The author believes that they were very early cases. He does not offer any observations as to the pathology but says the slight trauma was sufficient to cause fractures of the delicate normal bone trabeculae producing effusion, hemorrhage and interference with nutrition thereby setting up a localized osteomyelitis. The pigments of the blood were absorbed leaving clear contents just as occurs in cysts of soft tissues.

The author offers the following conclusions:

1. Cysts of bone should be detected in their incipient stages before extensive destruction of the medulla has taken place.

2. Early operation results in prompt cure and prevents deformities and extension of bone plasticity.

3. A localized trauma followed by persistent but not severe pain and localized but not true wiry tenderness—symptoms and signs of an untreated chipping fracture—should arouse clinical suspicion of a minute early bone cyst the corroborating which may be afforded by close scrutiny of a roentgenogram at the corresponding site that the localized lesions.

W. C. O. Reilly

Nicolli H. L.: The Use of Antistreptococcus Serum in Chronic Arthritis. *J. Am. Med. Assn.* 1940; 130: 225. By S. rg. Gj. c. & Obat.

The serum used was horse serum was prepared with a polyvalent specificity, an attempt being made to take advantage of the passive immunization to increase the opsonic index. Varying doses of 10 to 30 ccm were administered but anaphylaxis in some made it advisable to use gradual increasing successive doses of 2, 6, 8, 10 and 12 ccm given more frequently.

The administration was given subcutaneously in the scapular region. A large needle was used and every effort made to avoid possible injection into the joints. Five cases ranging from 22 to 36 years of age all having polyarticular involvement were treated. Vaccines autogenous if possible were used with the serum and found to act complementarily to it.

Some few patients experienced anaphylactic shock but the greatest discomfort was urticaria with some herpes about the site of injection. The reaction occurred during the declining stage of opsonin was more likely to be followed by anaphylaxis. The conclusions are:

The administration of horse serum may be followed by anaphylaxis in 25 per cent of cases. Heating and aging of serum fails to remove its toxicity.

3. An estimation of the immune bodies showed no difference in the use of antiserums of less potency immutually prepared. Acute streptococcal infection occurred in 2 cases.

4. Concentrated sera were not successful.

5 The use of antistreptococcus serum in the treatment of chronic arthritis is neither advisable nor justifiable
H W MALTRY

FRACTURES AND DISLOCATIONS

Winslow N: Intra Articular Fracture Fixation; Report of Two Cases *Massachusetts Med J* 94 189
By Surg Gynec & Obst

The author reports two cases of intra articular fracture fixation by means of wire nails. The first was a fracture through the head and anatomical neck of the humerus in an adult and the second a separation of the lower humeral epiphysis in a child three years of age. In each case the joint was opened and appositionment of the fragments was secured by nailing. He believes that all intra articular fractures which cannot be handled otherwise should be screwed or pegged from the articular surface.
ARTHUR J D VINSON

Hawley G W: Ununited Fractures with a Study of Bone Repair *Am J Orth Surg* 914 XII 45
By Surg Gynec & Obst

The extraordinary reparative power of bone is well stated in the expression that fractures unite with treatment without treatment and in spite of different methods of treatment. The process of repair in bone differs from that of other tissues only in that the cells which effect the repair have the property of depositing calcium salts. The hamorrhage incident to a fracture and common to all ruptures of tissue is the first step in healing. On the framework of the fibrin clot which bridges between the two fragments the new tissue grows and the specialized cells lay down the lime salt. Some of the author's conclusions from an experience with 53 cases of non union out of 1,200 fractures are:

Accurate approximation is the best preparation for perfect union.

Excessive hemorrhage interferes with the repair. The periosteum protects the inside repair from intrusion of connective tissue growth from without.

The importance of coincident disease as syphilis and malnutrition in preventing union has been exaggerated.

Freshening the edges, rejection of chemical irritants and massage are not indicated.

Bone transplant is the operation of choice. Of 53 cases 31 74 per cent were cured by simple methods. Fifteen were operated upon. Conservative treatment consists in reimmobilization and where possible weight bearing. In the latter procedure the object sought is to stimulate calcium deposit by function and not to produce the so-called friction of fragments. Of the 5 per cent cases plates were used in 6 bone grafts in 6 screws and merely for hemi-girdles in one. In these 53 cases no failure of union in an infected compound fracture was observed. Out of 8 cases of fracture in carcinoma of the bone only one failed to unite.
W A CLARK

Wagner K: Fractures of the Diaphysis of the Femur (Die Frakturen der Femurdiaphyse) *Dtsch Arch Klin Chir* 94
By Zentralbl f d ges Chir u Grenzgeb

In the course of 6 years Wagner has observed 863 fractures at his institute. Of this number 651 were fractures of the extremities among them 117 of the femur 93 being simple fractures of the diaphysis. The latter form the material for the author's monograph. Seventy-two pages are devoted to a discussion of the anatomical side of the question and from the literature and his own experience he comes to the conclusion that transverse and spiral fractures are most frequent and the primary dislocation of the fragments is caused by the mechanism of the trauma. The process of healing is exhaustively discussed and he finds that if the roentgen picture shows a diastasis between the fragments it indicates that there is interposition of muscle and in such cases the possibility of a pseudarthrosis must always be borne in mind.

In the last chapter he discusses the treatment of fracture of the femur. First he takes up the ambulatory treatment of these fractures by Volkowitsch's method and decides that it is inadequate on the basis of 11 years' use of von Bruns' splint; he designates the results of this treatment as mediocre. Codivilla and Dollinger's methods are also rejected. Passing to extension methods which he thinks are the only justifiable ones, he discusses Zuppinger's splint first. From his own experience he finds that the correction of lateral dislocation is difficult especially that of the dorsal lower fragment; otherwise he thinks the method is a good one.

After discussing Henschen, Hennequin, Heusser and Vorschütz's splints, Bardenheuer's method which he thinks is of great importance is described in detail. The experience of the medico-mechanical institute with Steinmann's nail extension is thoroughly reviewed. He reports 59 cases of nail extension in which there were no complications either suppuration or fistulae. He is an ardent advocate of Steinmann's method for the following indications: (1) all fractures of the femur with great dislocation; (2) fractures near the trochanters; (3) old and incorrectly healed fractures; (4) operative fractures with great dislocation in the long axis; (5) all cases in which changes in the skin seem to contraindicate the use of plaster. In general he is better pleased with the Steinmann method than with any other method of extension.

Heusinger's apparatus is considered of value in the treatment of recent fractures and as indicated in old fractures that do not show a tendency to heal well. Operation is indicated if non-operative methods fail also in pseudarthroses. The clamp method and Lane's plates are deserving of consideration. From the material of the institute the following figures are given: Steinmann's method was used 159 times combined in 21 cases with operation. Among the cases in which the nails were used 6 were afterwards operated upon—2 clamps, 2 Lane's

Steinke C. R. Recent Traumatic Dislocations of the Hip. *A. S. g. Phil.* 914 1x 617
By Surg. Gynec. & Obst.

From 1905 to 1914 at the Episcopal Hospital of Philadelphia there were only 10 cases of recent traumatic dislocation of the hip out of 23,000 surgical cases 6000 of which were classified as surgical injuries thus showing but 1 dislocation of the hip in every 600 surgical injuries.

In the above series the author has summarized the entire conditions and end results.

There were 9 males and 1 female the ages ranging from 10 to 61 years the time in the hospital varied from 3 to 47 days.

The types of dislocation were 2 cases of anterior, one each of pubic and thyroid variety 8 cases of posterior dislocation 4 being iliac or high 2 sciatic 2 simply posterior. Thus the posterior variety was shown to be the most common. Reduction was done by the Stimson method once the indirect method once circumduction twice and the direct method six times. The after treatment varied 4 cases simply being kept in bed 2 were treated by Buck's extension the remaining 4 cases had sand bags applied to either side of the leg. The end results of this series of cases covering a period of 2 months to 4 years following reduction showed 6 with no disability whatever 1 had numbness and partial paralysis due to nerve injury and fracture of the pelvis as well as dislocation of the hip 1 patient died of fractured skull while in the hospital and the remaining 2 could not be traced.

The conclusions are that simple luxation of a hip properly reduced gives no permanent impairment.

II W. MALTRY

Chusholm K.: Injuries of the Foot a New Method of Reducing Dislocation of the Big Toe. *C. d. M. A. J.* 94 108

By S. rg. Gynec. & Obst.

The author discusses briefly a few injuries and degeneration of the foot. The anatomy and mechanism with the deformities and disabilities due to ignorance, fashion, occupation and accident are spoken of. The theory he advances is that many static foot troubles may be prevented by the wearing of good shoes with heels coming well forward especially on the outer side. He also thinks the head of the metatarsal on hallux valgus should not be moved entirely to the inner side of the foot being pared off to let the toe come back straight. In dislocation of the big toe cutting the extensor in such a manner as to permit suturing it was resorted to in reducing the swelling which had been produced by the manipulations in three previous futile attempts.

Two cases of compound fracture of the ankle are cited in which splendid results were obtained by the free use of iodine before applying splints. By amputating the toe the author saved two cases which had begun gangrene and he had had to treat the other by dissection and diabetes. Healing was obtained by using mild electric stimuli.

lution produced by putting a copper disc on a vinegar soaked blotter placed on the knee an insulated copper wire leading to a silver disc which was bandaged against the amputation stump. Indolent ulcers also do well treated in this way.

C. A. STONE

SURGERY OF THE BONES JOINTS ETC

Bayer C. Method of Filling Cavities After Bone Operations. (*Zur Abklärung des Heilungsdauer ch ausgedehnt Nekrotomen*) *Jahrb. f. Kl. Chir.* 94 1xxx 569
By Surg. Gynec. & Obst.

Bayer discusses the various method that have been adopted for filling bone cavities after operation and concludes that the simplest and best way is to trim the sides and edges of the cavity so that it will form as smooth and uniform a trough as possible and then fold in the skin and periosteum to fill it. A roll of iodoform gauze sutured over the wound exercises pressure on the skin and periosteum flap and causes it to adapt itself more accurately to the cavity. It also aids in hemostasis. A compression bandage is placed over this and left in place for two weeks. The periosteum rapidly forms new bone to fill in the cavity. How completely this is done is shown by five illustrations from typical cases. The time required for healing is reduced to about half of what it is with ordinary tamponing or other modes of treatment.

A. GOSS

Ashhurst A. P. C.: Cinematoplasty Amputations. *A. S. g. Phila.* 94 1x 750

By S. rg. Gynec. & Obst.

The author does not believe that amputations for cinematic prosthesis according to the method of Vanghetti has received adequate attention in this country nor does he believe that the ordinary artificial arm is adequate for the needs of the working man.

Ashhurst describes the technique of the operation.

A skin flap the diameter of the arm at the point of amputation and about an inch wide is made over the brachial vessels on the inner surface of the arm. This is lifted with the subcutaneous tissue and the brachial vessels sutured above the end of the flap. The nerves are also cut at this level care being taken not to injure the nerve supply of the muscles. A longitudinal incision is then made on the outer surface of the arm and the flexor and extensor muscles are separated and raised from the bone with the skin attached. The bone is cut off at the upper level of the incision and the small flap is laid over the bone and sutured to the skin on the outer surface. The skin on the muscle flaps is sewed about this in the shape of a cuff the ends of the biceps and triceps are then sutured together in the form of a loop and a large rubber tube is placed in the opening. Allowance must be made for shrinkage of the flaps.

In both the cases reported useful stumps were

SURGERY OF THE NERVOUS SYSTEM

Hanes, F. M.: Nerve Injuries Due to Bony Abnormalities. *Old Dominion J.* 9:4 17 235
By Surg. Gynec. & Obst.

In view of the fact that the ulnar nerve runs in a groove close against the bone it is astonishing that there are so few severe injuries to it from fractures and dislocations. One very odd type of nerve injury—delayed lesions of the ulnar nerve—has been but infrequently reported.

A typical case is reported of an elbow fracture at 4 years of age seen at 35 in which there had been wasting and weakness of the right hand for five years. The elbow joint was enlarged and had incomplete extension. The ulnar nerve was the size of a lead pencil in the region of the groove; there was muscular weakness and atrophy, hypæsthesia and hypalgæsia in its distribution. At operation a dense fibrous tissue surrounding the nerve was cut longitudinally; the groove was enlarged with the result that six weeks later sensory changes could no longer be found and the patient's strength had greatly increased. The dense fibrous tissue had formed in response to continued traumatism by the displaced inner condyle.

The condition must be differentiated from tabes, syringomyelia, cord tumors and neuritis. Cervical ribs may cause about the same symptoms and the author cites two cases in point. The first a woman of 26 had had pain varied in character along the right ulnar nerve for five years. The second a woman of 43 had had a constant dull aching pain along the ulnar side of the arm for one and one half years. The sensory and muscular changes were about the same as in the case with the nerve involvement. All had great difficulty in apposing the thumb and fingers. Examination of the first case showed bony prominences of both supraclavicular fossæ. X-rays showed cervical ribs; the right was removed and in three weeks great improvement was noticed. Palpation in the supraclavicular fossæ of the second case showed enlargement on the right. X-rays showed bilateral cervical ribs; the right was excised. For two days the deltoid, triceps and biceps were paralyzed but they gradually recovered and all pain ceased. Cervical ribs usually cause trouble on one side only; it comes on gradually and maybe never. At times the radial pulse on the affected side is delayed from the rib pressing on the subclavian artery.

C. A. Sroog

Katzenstein: Demonstration of Splicing a Plexus in Infantile Paralysis (Demonstration of the Splicing of the Spinal Nerve). *Dtsch. Chir. H. 11* 1904.
By Zentralbl. f. d. ges. Chir. Grenzgeb.

The experiments of Heineke and Erlacher possess great theoretical interest but their practical value is not so great because the implantation of a nerve

into a paralyzed muscle can be accomplished only in paralysis of individual muscles but for isolated muscle paralysis tendon transplantation and especially implantation of muscles are excellent methods of operation. It is much more important to find methods of operation in total or subtotal paralysis of an extremity in which conditions we have thus far been practically helpless. For these difficult cases the author has devised a new operation viz the splicing of the plexus of such a paralyzed extremity with a sound nerve from the other side. The assumption in this operation is that prolongations grow from the implanted nerve through the plexus into the different nerves of the extremity.

The correctness of the above assumption has been confirmed by experimental study and clinical observation. Paralysis of the arm similar to infantile paralysis was produced in a monkey by sectioning the anterior roots of the cervical cord then a nerve from the sound side was implanted into the plexus of the paralyzed arm. Bielschowsky who was associated with the author in these experiments could demonstrate new nerve fibers to the finest branches of the ulnar, radial, and median nerves. Also in different patients operated upon the reinvigoration of different nerve branches of the spliced plexus could be demonstrated.

The technique of the operation is demonstrated on an anatomical plate. In paralysis of the arm the supraclavicular nerve was once sutured into the brachial plexus of the sound side and twice into the descending ramus of the hypoglossus of the sound side behind the vessels between the oesophagus and the spinal cord. In a paralyzed leg the obturator nerve of the normal side with all its end branches was sectioned, brought over to the diseased side retroperitoneally and sutured into the plexus.

Spritz of Wien pointed out that an Italian author had previously performed a similar operation.

Katzenstein replied that Maragliano's operation was different. In a case of total paralysis of the leg he spliced the crural nerve of the paralyzed side with a branch of the crural of the sound side. The characteristic point about his (Katzenstein's) operation is the use of a nerve in its totality for conduction and especially the suturing of it into the plexus of the paralyzed side.

Von Hacker: Direct Implantation of Nerves into Muscles and Muscular Neurotization in a Case of Paralysis of the Trapezius (Direct Nerve Implantation into the Muscles and Muscular Neurotization in a Case of Paralysis of the Trapezius). *Dtsch. Chir. H. 11* 1904.
By Zentralbl. f. d. ges. Chir. Grenzgeb.

The question of the implantation of nerves directly into paralyzed muscles has recently been brought

secured with considerable power but at the time of reporting the cases the author had been unable to secure a suitable prosthesis. *Werner O. Kruliv*

Buerger L.: Tenoplasty for Ischemic Contracture
Internat J S 5 914 xvi 406

By Surg Gynec & Obst.

Buerger reports that the literature endeavors to show that attempts to amiorate deformities of Volkmann's contracture have yielded poor results at best. He has recently had considerable success in the treatment of this condition by plastic operation on the tendon and reports a successful case.

A boy 8 years of age admitted to the Mount Sinai Hospital July 10, 1914 presented the typical claw hand deformity following a fracture of both the radius and ulna in the upper third of the forearm. The injury was sustained seven months previously and the fracture had been put up in a cast which remained in place for six weeks after which it was noticed that the fingers were immobile deformed. There were a number of sloughing areas near the wrist and thumb and that the condition became progressively so that upon admission to the hospital the patient at the wrist was numb and there was practically no motion of the thumb or of the fingers. These being intensely fixed. A incision 3 inches long was made over the middle of the wrist and for arm the median nerve was exposed and liberated from dense adhesions. The superficial deep flexor tendons of the second third and fourth fingers were freed as well as the palmaris longus. All of these muscles were lengthened in the typical plastic manner by a splitting incision about 3 to 3 inches long. The tendons were covered with the regle membrane and the fingers dressed in a plaster cast with a posterior splint.

The result was excellent primary union being obtained and six weeks after the operation flexion and extension were excellent.

A second operation was done in the thumb the technique being the same as the other fingers the result also being excellent.

Phillips C. L.: Syndesmorrhaphy and Syndesmoplasty; the Operative Treatment of Ruptured Ligaments. *Surg Gynec & Obst 9 4 1 9*
By Surg Gynec & Obst.

Two new words are coined from the Greek word *synthesis* signifying the science of ligament.

1. By *synlesmorrhaphy* is meant the simple suture or repair of ligament.

2. *Syndesmoplasty* means a plastic operation on a ligament.

The subject of ruptured ligaments does not receive the attention its importance warrants. In fractures the broken bones tend to overlap and the process of repair is usually prompt and efficient. In ruptured ligaments however the torn ends tend to retract and in addition the process of repair is

very feeble hence the necessity for good approximation. Disability varies in proportion to the importance of the ligament broken and the amount of separation of the ends. A more careful examination should be made in the cases of severe sprains to determine the presence of ruptured ligaments. In many cases it may be necessary to make the examination under anesthesia. When an abnormal mobility is demonstrated after the acute symptoms have subsided operative measures should be resorted to.

Rupture of the ligaments of the acromioclavicular joint is treated by the insertion of a mattress suture of silver wire. Ruptures of the ligaments of the knee are easily demonstrated and are treated by simple suture or by a syndesmoplastic operation. The internal lateral ligament may be reinforced by means of superimposing on it the tendon of the gracilis muscle. Other ligaments may require a transplantation of the ligamentous structures.

Operative conditions of the ligaments exist in the following cases:

1. In frank injuries where there is reasonable ground for suspecting a completely ruptured ligament.

2. In old sprains where after the lapse of one or two months there is distinct abnormal mobility.

3. In cases of recurring sprains leading to frequent dislocations.

4. In compound sprains or compound dislocation a delayed or a late repair should never be omitted if there is a complete rupture of the ligaments and impairment of function.

Trethowan W. H.: Manipulative Methods of Treatment in the Surgery of Bones and Joints.
Br J H P G 9 4 xvi 400

By Surg Gynec & Obst.

The author discusses the general principles of manipulative or non-operative procedures their indications in surgical practice and their relationship to open operation.

Manipulative procedures are divided into two classes:

1. *Radical movements* active and passive.

2. *Frictional movements* under anesthesia.

The latter if carried to the limits of normal motion at one sitting should be followed by vigorous active and passive motion. If complete correction of the existing deformity is not possible in one sitting the limb is put up in the best possible position and the process repeated at suitable intervals. Plaster splints are best suited for this purpose. A few misapprehensions may be removed regarding the use of plaster fixation.

No healthy joint becomes stiff and ankylosed by fixation and the danger of muscular atrophy is exaggerated in proportion to the advantages obtained. The atrophy moreover may be avoided to a great extent by the use of removable plaster splints.

Emphasis is laid on the need of greater care in the

after treatment of sprains and fractures about joints. As much care should be devoted to secure perfect function as to the preliminary repair of the damaged structure.

The muscular balance about a joint deserves special consideration. The middle positions of ease assumed in acute inflammations frequently lead to contractures, resulting in a disturbance of this balance and limitation of movement. The treatment of such contractures must vary with the age of the deformity, its severity, and whether the joint is or is not the seat of old inflammation. Tenotomy alone is rarely sufficient because all the soft structures of the joints are affected. Over correction of the deformity should be striven for to avoid danger of recurrence.

There is a skeletal as well as a muscular balance. It has been said that one third of all pain to which the human body is subject is due to gross mechanical causes and can be relieved by mechanical procedures. Attention is called to the so-called traumatic arthritis such as is seen in the ankle joint after an incompletely reduced fracture at the lower end of the tibia and fibula or in the villous arthritis of the knees which may follow an old knock knee. Pronation of the feet is frequently responsible for malalignment of the skeleton. Pain results from the effort to maintain efficiency in spite of faulty mechanics.

In cases of malunion forced manipulation under anesthesia will be successful many times even several months after the fracture. Later open operation will be necessary. After sprains adhesions are frequently responsible for pain and limitation. Many of these are extra-articular especially in the shoulder and should be broken up if possible.

Many other valuable hints in the management of acquired deformity are given. F. J. GAELEN.

Elliott G. R. The Operative Treatment of Contracted and Deformed Hands in Multiple Arthritis. *A. I. M. J.* 94, 957. By Surg. Gynec. & Obst.

Although it is a time-honored dictum that diseased joints should be allowed to rest, the author offers a radical operative treatment for non-tuberculous joints. However if such treatment is undertaken for joints in active process of disease or if the after treatment is not properly carried out the results will be bad. The delicately balanced mechanism of the hand which maintains the fingers poised between extension and flexion, is easily disturbed by the processes of multiple arthritis. The restoration of a hand to its normal shape and function is a striking accomplishment. The operative technique consists in reduction with or without incisions. This is done under general anesthesia the deformities being overcorrected and the hand and fingers placed in splints which will maintain the overcorrection for two weeks. The pain is frequently severe for the first three or four days and may need to be controlled by morphine or by a local application of

aconite belladonna and glycerine applied on gauze bandages. This treatment has not caused an exacerbation of the disease in any case. The author reports his first three cases in which there have been no relapses after two years. W. A. CLARK.

ORTHOPEDICS IN GENERAL

Osgood R. B. The Relation of Posture and Intestinal Derangements to Coxitis. *J. Am. M. A.* 94, 1311, 1199. By Surg. Gynec. & Obst.

The author does not seek to show any relation causative or otherwise between intestinal and posture derangements and tuberculosis of the hips but calls attention to several cases of toxic arthritis indistinguishable from the tuberculous type which were associated with faulty posture and intestinal disturbance. All the cases here reported showed a negative von Pirquet reaction and recovered with perfect motion and function of the hip. It has been the author's experience that cases of arthritis in which the clinical roentgenoscopic and pathologic findings were typical of tuberculosis have never recovered complete function and motion.

The first case a girl of 6 had had digestive troubles constipation and occasional upsets from her first year. She had pain in the right thigh following a long walk and was unable to bear weight on the right leg. She was poorly nourished had a prominent abdomen flat chest and round shoulders von Pirquet negative. The measurements of the right leg were the same as those of the left leg. After a course of treatment consisting of mechanical catharsis inverted position ten minutes twice a day and the wearing of a shoulder brace with abdominal support she improved in nutrition the subjective symptoms in the hip disappeared and motion was normal.

The second case a boy of 4 had had mild digestive troubles associated with pain in the knee for a year. He had an acute attack of pain in the right knee following a fall. The posture was suggestive of congenital visceral ptosis and a similar operation was spasm and restriction.

extension in the right, but Maragliano's operation. There was a disapparent case of total paralysis of the and a return of normal nerve of the paralyzed side as in Case 1 of the crural of the sound side. The

third point about his (Katzenstein's) tenderness the use of a nerve in its totality for tubercle, and especially the suturing of it into the regulation of the paralyzed side.

Steindler

Acker: Direct Implantation of Nerves into Muscle and Muscular Neurotization in a Case of Paralysis of the Trapezius (Direkte Nerventimplanzung in den Muskel und muskuläre Neurotisation bei einem Fall von Cucularislahmung). *Zeitschrift für Chirurgie* 94, 21, 88.

By Zentralblatt für Chirurgie u. Grenzgeb. The question of the implantation of nerves direct into paralyzed muscles has recently been brought

to the foreground again in orthopedic surgery by the work of Erlacher and Heisele.

Von Hacker reports a case which he operated upon early in 1907 in which he implanted the nerve directly and carried out a muscular neurotization as Gersuny had done a short time before. After the operation there was paralysis of the trapezius as a result of injury to the accessory nerve. Since nerve suture was impossible technically the central stump of the accessory was implanted directly into the trapezius and a flap was also split off from the levator scapulae and united to the freshened trapezius. At a later operation a piece of muscle this time from the deltoid was also sutured on in the

same way. The result was excellent. The arm could not only be lifted up to the perpendicular position but also for mechanical reasons there was a restoration of the injured shoulder muscle.

Although at that time the reason for this good result could only be surmised since both a peripheral nerve implantation into a nerve plexus and a restoration of the scapular portion of the trapezius had been carried out. Erlacher's conclusive experimental and histological studies remove all doubt as to the great importance of muscular neurotization and direct nerve implantation. Von Hacker certainly deserves the credit of having first performed this operation that promises so much. *SPRY*

SURGERY OF THE SKIN, FASCIA AND APPENDAGES

Sprengel Hastening the Healing of Granulating Wound Surfaces by Dividing Them (D. B. schleunigung der Heilung granulierender W. d. flächen durch Teilung) *Deutsch. Gr. Hs. f. Ch.* 94. By Zentralbl. f. d. ges. Ch. u. i. Grenzgeb.

Although the problem of getting granulating wounds to cicatrize quickly has been solved in general there are certain cases that are not satisfactory either because the injured surface is too large or because peculiar conditions demand a more resistant material. Under these conditions the author recommends dividing the large wound by

one or more skin flaps passing transversely across the surface of the wound. A large flap can be made from one side or better still two shorter flaps one from each side with strong well nourished pedicles brought together in the middle. The granulations are cut away in a trough shape corresponding to the breadth of the flap. The principle of the operation is that at least two new wound edges are artificially created in addition to those already existing from which scar formation is hastened in a truly surprising way. Pictures find visual cases are given.

LATZKE STEIN

MISCELLANEOUS

CLINICAL ENTITIES—TUMORS, ULCERS, ABSCESSSES ETC.

Pain A. A.: Carbolic Acid in the Treatment of Tetanus. *P. Chir. u. Gyn. 94* u. 80. By Surg. Gynec. & Obst.

The author cites a case of tetanus in an adult 24 years of age in whom the early symptoms had passed unrecognized. He was seen five days after the first spasms of the jaw had appeared at which time he was quite rigid and the slightest sound or touch produced clonic spasms. A large septic ulcer of the leg, which was evidently the source of the infection, was excised and a pad soaked in carbolic acid applied to the wound. Thirty minims of a 1:100 solution of carbolic acid was injected hypodermatically every three hours.

A distinct improvement was noted at the end of forty-eight hours; the spasms were less frequent and the pain was relieved. Carboloria appeared twice each time the injections were stopped until it passed off. The patient made a complete recovery.

The author states that a veterinary surgeon in the vicinity had treated seven cases, one case with carbolic acid alone which recovered, another veterinary surgeon treated four cases with four recoveries.

The author states that the action of carbolic acid has no specific antagonistic effect upon the tetanus toxin and that it is likely that it is the anesthetic property of carbolic acid which brings about the beneficial effect. *ARTHUR B. EUSTACE*

Fischer H.: Diabetes and Surgery (Diabetes und Chirurgie). *Deutsch. Ztsch. f. Ch.* 94. 422. By Surg. Gynec. & Obst.

Fischer discusses the various surgical complications of diabetes, such as diabetic carbuncle, perforating ulcer of the foot, the various forms of gangrene, diabetic necrosis of internal organs and of bone, also major operations on diabetic patients. In a total material of 86 cases he lost 42; a mortality of 48.3 per cent of 57 patient operated upon for surgical complications of diabetes there was a mortality of 3 or 5.3 per cent of 11 amputations for diabetic gangrene the mortality was 8 or 72.7 per cent and of 14 major operations on diabetic patients 5 or 36 per cent. Other operators have had much more favorable results for instance Karewski in his operative cases and Kuster in his amputations had a mortality of 14.7 per cent but they also had much better material and more favorable conditions for their operations.

Tufter operated on 15 diabetics for new growths and lost 6 or 40 per cent. Mayer reports 11 operations for gangrene with 6 deaths 54.6 per cent and among 61 patients with diabetic gangrene not operated upon there were 40 deaths or 80.3 per cent.

The question of operation in diabetes can be decided only by careful study of an immense amount of material so all collections of operations even though only small ones should be published.

A. Goss.

Wainwright J. M.: The Present Status of Our Knowledge of Shock. *P. M. J.* 1914, volume 14, 572. (Junc. & Obst.)

The question of shock is rapidly reaching an almost metaphysical basis. Definite ideas and more particularly definite plans of action in preventing or treating a condition immediately threaten the very life of a patient are imperatively needed by clinicians. This is truly the vital point of the question.

size the following imperative precautions to be observed in order to obtain satisfactory results with the dialysis test.

1. Absolute asepsis and especial cleanliness in caring for the glass work.

2. The substrate must be thoroughly macerated for as Abderhalden emphasizes unless the tissue has been minutely divided before boiling it cannot be entirely freed from blood. The substrate must be tested before each series of reaction.

3. The serum must be centrifuged until all traces of red blood-corpuscles are removed. The colored serum should be discarded.

4. The thrombiles must be tested and then handled with great care to avoid reaction due to preparation or bacterial contamination. Blowing the water from the wash bottle may contaminate it with saliva sufficient to produce confusing results.

In conclusion one is cautioned to perform the test only when such illness acquired if it negative are diagnosed as non-toxic.

BLOOD

Reyn. A The Treatment of Certain Injuries and Diseases by Bier's (Arterial) Hyperemic Method
Med Press & Circ 94 144
 By Surg. Gynec. & Obst.

Reyn states that the object of Bier's treatment is to cause a hyperemia of the parts referred to. This is produced (1) by means of an elastic band (2) by cupping glasses (3) by means of hot air. Heat has also been applied in the shape of baths, poultices, etc.

The hot air method is particularly adapted to cases of old standing arthritis, both rheumatic and traumatic, and neuralgias of all varieties. It may be applied surgically in bringing exudates of blood and serum to rapid absorption, especially after sprains. The author states that the treatment has been very effective in reducing the edema and stiffness of a Colles' or Pott's fracture.

Beneficial results are also claimed in the treatment of varicose veins even when ulceration be present, although a recent thrombosis contra-indicates the hot air bath. Several cases of chronic eczema have also been benefited by this treatment.

LUCIENE CARY

Ohkohchi T Control of Haemorrhage (Über die Blutstillung) *Beit. kl. Ch.* 94 620
 By Surg. Gynec. & Obst.

The methods of controlling hemorrhage may be classified as physical, chemical and biochemical. The ideal method, ligature, is not applicable to parenchymatous organs. Tamponade necessitates leaving the wound open with danger of infection and secondary hemorrhage. The biochemical method is the transplantation of living material to the bleeding spot. Muscle, fat, fascia, omentum, etc. are used. Recently Kocher and Fono have reported on a new substance, coagulogen, found in normal blood plasma and said to hasten the formation of thrombokinase.

Ohkohchi has experimented with rabbits as to the effect of transplanting living tissue, such as muscle, fat, fascia and omentum, in stopping hemorrhage from parenchymatous organs, especially the liver, spleen, and kidney. In general he found that the haemostatic effect of living tissues is largely a mechanical one and that the thrombokinase has a minor effect. In order to stop hemorrhage the tissues must have a certain size and thickness; the wound must be carefully cleaned and the flap pressed against the wound for several minutes. The ability of the tissue to adhere to the wound surface plays an important role and is most marked in muscle tissue.

Muscle tissue is the most useful material because it adheres promptly while fat, fibrin and fascia easily roll itself up. In operations on the liver a flap of omentum is most useful. In kidney operations peritoneal fat is conveniently used.

In reference to the haemostatic effect muscle

tissue stands first, fascia last. Healing is delayed if the transplanted tissue undergoes necrosis. In wounds of the liver a large percentage of the muscle flaps became necrosed. In kidney wounds muscle usually healed in without necrosis. Omental flaps rarely become necrotic. Adhesions to neighboring organs are more frequent in muscle transplantation. Secondary hemorrhages cannot be prevented absolutely in every case. After healing one finds connective tissue proliferation in the adjacent parenchyma with injury to the epithelial cells.

Ohkohchi also experimented with foreign bodies to stop hemorrhage. Pieces of intestine and bladder disinfected with iodine-potassium iodide solution were used successfully. Finally pieces of sponge sterilized by boiling were found to have prompt haemostatic effect on parenchymatous wounds.

C. P. ZIEGLER

Hartwell J. A. A Consideration of the Various Methods of Blood Transfusion and Its Value
J. S. Med. 94 335
 By Surg. Gynec. & Obst.

Hartwell's consideration is based upon a study of the recent literature. Blood transfusion he says is in reality a homologous transplant of living tissue, the tissue being a complex fluid which possesses the peculiar property of coagulating under certain conditions. We do not know that a small dose will not produce by chemical interaction the same effect as a massive dose, and small doses frequently repeated may serve best in certain cases. The only condition in which a massive transfusion of whole blood seems indicated is after a loss from direct hemorrhage of such severity that life is endangered because of insufficient blood to maintain oxygenation.

There can be no argument against transfusion properly performed in cases of acute hemorrhage. The indication in ruptured extra uterine pregnancy, gastric and duodenal ulcers, and in typhoid perforations for instance, is to replace the blood which is lost. Although the red cells may be rapidly destroyed, they serve as oxygen carriers during a critical period and may tide over an emergency until the bone marrow can replace the cells that are lost or until a needed operation can be performed.

When the loss of blood is the essential feature of the pathological process, as in hemophilia and hemorrhage of the newborn, the indication is double: to replace the blood lost and to so affect the organism that no further bleeding shall occur. The first may require a massive transfusion for the second a small intramuscular injection of horse serum or of the thrombin solution of Clowes and Busch is simpler and as effective. Except in emergencies then serum should be the choice in this class of cases. In cases of primary or secondary anemia not associated with hemorrhage transfusion so far as evidence goes has only a temporary value. It may tide a patient over an emergency or cause a transient improvement but

it does not meet the underlying pathological condition and cannot be considered curative

The use of transfusion in infectious processes, local and general has been disappointing. Isolated apparent successes make the problem worthy of further study particularly along the lines of the employment of serum from a person who has recently recovered from the same infection

The ideal technique for transfusion involves four factors: absolute asepsis; no blood change; ability to measure the quantity transfused; and ease of accomplishment for donor, recipient, and operator. Of the three methods in vogue, the intima to intima method popularized by Carrel is a difficult procedure of considerable magnitude which affords no measure of the amount transfused. The second method, the employment of a paraffin coated tube as a connecting link between donor and recipient is also far from ideal as no quantitative estimation is possible and the danger of clotting is always present.

The best method is one employing an intermediate receptacle either making the transfer so rapidly that the blood has been drawn and discharged into the recipient's vein in less than the normal coagulation time (Landemann) or by the simpler technique of adopting means to delay or prevent coagulation.

The use of a paraffin coated apparatus of which there are several types has a very serious objection—the difficulty of completely coating the entire system with a thin smooth layer. The danger attending any error in its accomplishment is obvious. To meet this difficulty Satterlee and Hook have perfected a method which promises to fulfill all requirements. They avoid contact of the blood with traumatized tissues by introducing an outside cannula into the donor's vein and passing a second cannula connected with the receptacle within this and further into the vein. To prevent coagulation they employ hirudin—leech extract—in a 500 in 100 per cent NaCl solution. A cc. will wet the inside of a 220-cc. receptacle and will prevent coagulation for 30 minutes which allows plenty of time to empty the receptacle through a cannula already introduced into the recipient's vein. This amount of hirudin can cause no danger to the recipient even in cases of hæmophilia for it is only one six thousandth of what has been established as a harmless dose.

ALGER CHENEY, MD

BLOOD AND LYMPH VESSELS

Horsley, J. S. A New Method of Lateral Anastomosis of Blood Vessels and an Operation for the Cure of Arteriovenous Aneurysm. *Trans. Am. Surg. Soc.* 1914, 11, 116. 94 Dec.

By S. R. C. (ynec. & Obst.

Horsley reviews briefly the history and technique of lateral anastomosis of blood vessels, both when uniting an artery to a vein as in reversal of the circulation and when uniting vein to vein as in

Eck's fistula. He doubts the practical utility of reversal of the circulation and mentions some of his experiments which are not yet ready for full report but which seem to show that in reversal of the circulation by the end to end method the blood returns to the heart by anastomotic venous branches a short distance below the site of operation. They also show that the arterial blood in the reversed femoral vein never reaches the foot. If the circulation is to be reversed however it should always be done by lateral anastomosis and not by the end to end method.

He describes a clamp which he has devised for lateral anastomosis of blood vessels. It is five inches in length, has delicate curved blades and the handles are in an axis with an imaginary line drawn from the tip to the heel of the blades. This permits the handles to lie flat and they are out of the way during the suturing.

The forceps can also be used for temporary occlusion of blood vessels and for the cure of arteriovenous aneurysm. In a lateral anastomosis the vessels are clamped by two of these forceps and held together by two sutures near the end of the proposed anastomotic opening. The opening is made with scissors, and a tractor suture is placed in the outer wall of each vessel but not tied. The suturing is done with a curved needle the knot being on the outside. A continuous overhand stitch is used and when the other angle has been reached one of the tractor sutures in the outer wall is withdrawn and a tractor suture placed so as to unite both walls. This when pulled upon everts the intima and makes the suturing easier. The thread is tied to the short end which was grasped in the hæmostat when the first knot of the continuous suture was made.

In using the forceps for arteriovenous aneurysm the vessels are first dissected down to the aneurysm and first the artery and then the vein are grasped by the forceps near their point of communication. The communication between them is then divided and the opening sutured. This makes the operation easier even when a tourniquet is applied but it should be especially valuable where no tourniquet can be used as in the upper femoral region.

POISONS

Steinmann, F. A New Treatment for Putrid Abscess (E. n. ue B. h. n. d. l. g. u. k. der Abscesse). *Deut. k. G. e. l. l. s. f. Ch.* 94. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

In the treatment of putrid abscess the author conducts a continuous stream of oxygen or air into the base of the abscess. As a rubber drain as possible is passed into the base of the abscess, to this a narrower rubber catheter is introduced and connected by tube with an oxygen tank or an air blast. The stream of oxygen or air has a drying effect mechanically removes the secretion and kills the anaerobic bacteria. The effect is a rapid

appearance of the odor and secretion, so that very soon the drain can be shortened daily and ordinarily removed after a few days. The method which demands some skill and careful watching shortens the duration of putrid abscesses one-half or more. It can be carried out with oxygen in any private house. In any hospital or private house a hydrostatic blast may be attached to the water fixtures.

KATZMANN

Küster H.: The Value of Peristaltin in Laparotomy (Über den Nutzen des Peristaltins für die Laparotomierten) *Zeitschrift für Gynäkologie* 1914 xxxviii, 1006 By Surg. Gynec. & Obst.

The author endeavored to determine the value of peristaltin in stimulating bowel peristalsis on laparotomy patients. He first determined the time when bowel peristalsis became effective using the expulsion of flatus as the indicator. On 31 patients he found that on an average flatus was expelled at the end of 41 hours. Peristaltin then began to result and in 8 cases he injected 0.5 ccm intramuscularly on the evening following the operation. No appreciable shortening of the time was observed although he gained the impression that bowel peristalsis commenced earlier and that the patients suffered less.

In the next series of 28 cases submitted to laparotomy the author injected 0.5 ccm one half hour before operation and another 0.5 ccm on the evening following the operation. The first 8 cases showed surprisingly good effects from the peristaltin flatus being expelled on an average of 17 hours after operation. The patients did not appear to have been laparotomized so fresh was their appearance. In the remaining 20 cases however results were not so good although the time for bowel activity was shortened from an average of 41 hours for those who received no drug to 33 hours for the 28 in this series who received the drug. The general condition of the patients subjectively and objectively was much improved from which the author concludes that the condition of patients after laparotomy depends considerably upon the time when bowel activity is established. The author believes the last method of treatment is to be preferred as a routine and if no effect is observable on the second evening following the operation another 0.5 ccm should be administered.

L. A. JUNKER

ELECTROLOGY

Dodd, W. J. Treatment of Acute Röntgen Ray Dermatitis. *Am. J. Roentgenol.* 94, 430. By Surg. Gynec. & Obst.

Dodd's article was prompted by the possible renewal of untoward roentgen effects incident to the installation of powerful apparatus in small hospitals with unqualified and untrained operators in charge. The Coolidge tube has added another source of danger in the hands of those ignorant of its power. Twelve cases of roentgen dermatitis were seen by

Dodd in 1914. Seven cases of alopecia from frontal sinus exposures which were due to repeated exposures three resulted from small high frequency coils used in dental work two from fluoroscopic examinations to determine a Pott's fracture. As a preventive treatment Dodd recommends bathing the parts in bicarbonate of soda solution. Results of further experiments to establish the uniform success of the bicarbonate treatment will be published soon.

For acute roentgen dermatitis the author recommends the following whitewash:

Zinc oxide	o 5 oz
Phenol	o 5 dr
Glycerine	1 dr
Aqua calca	8 oz

Directions: Shake well and bathe the area for five to ten minutes, twice or three times daily. Avoid heavy dressings and when possible expose the lesion to the air. Do not apply the remedy on a dressing and allow to remain for five or ten minutes, but put it on directly and let the air get to the lesion. Under no circumstances use an ointment. Use a fresh quantity of wash every time it is applied and do not leave the fluid exposed to the air.

E. H. SERRIN

Nordentoft J. and S.: Experiences with Röntgen and Radium Treatment of Cancer (Nogle erfaringer med Röntgenbehandling med nogle Bismutpræparater og radium og röntgen). *Ugeskrift for Læger* København 1914 lxvi, 341, 356.

By Surg. Gynec. & Obst.

J. Nordentoft tabulates the minute details of 21 cases of external cancer in which the patients were apparently cured as the cancer has vanished and there has been no sign of recurrence during the interval since which ranges from a few months to three years. The tumors were all on the face except one at the mouth of the urethra.

S. Nordentoft was the first physician in Denmark to report a case of deeper cancer with multiple metastases in which a clinical cure was realized with roentgen exposures. The patient a young woman had had one ovary removed fifteen months before for a supposed benign tumor. The cancer was in the remaining ovary which was then removed. Three weeks afterward the roentgen treatment was begun when several metastatic lumps could already be felt. One in Douglas's pouch was a knobby tumor as large as a fist. The roentgen treatment was applied systematically and the metastatic tumors subsided others developed at other points again and again and each time they retrograded under roentgen treatment. Several times he had expected to present the patient at a meeting of his medical society but each time new metastases developed in the interval between the sending in of the notice and the meeting. At present no tumors can be palpated and there is apparently nothing abnormal in the pelvis except that the cervix is rough and irregular in Douglas's pouch. H. has not given up hopes of a final cure.

as the metastases develop now at longer intervals and seem to be more susceptible to the röntgen rays. There is also a kind of auto immunization to be counted on like a vaccine therapy from absorption of the cancerous tissue.

Nordenstoft reports a number of other cases of cancer which have been given röntgen treatment with encouraging results. He regards it as superior to operative measures even for superficial cancers as it does not sacrifice any tissue even the stroma of the cancer is saved and he believes that there is less danger of recurrence. Last but not least patients come for treatment at an earlier stage when they know they do not have to submit to a mutilating operation. His experience with radium on the contrary has been unfavorable. He emphasizes the fact that treatment of cancer requires individualization and skillful application of adjuvants as needed. A Goss

Levin I: The Relation Between the Surgical Treatment and Radiotherapy of Cancer. *Med Rec* 1914 ix xv 63 By Surg Gynec & Obst

The author discusses the limitations and results of surgical treatment of carcinoma and gives his own technique for the application of radium therapy and of röntgen therapy.

Since cancer remains during the greater part of its development a purely local disease the success of local treatment is considerable but surgery alone is able to give relief in less than 30 per cent of cases and as no further progress can be expected with this method of treatment other methods must furnish whatever advance is to be made. Radiotherapy is the only physical method having merit. It is based on the so called selective action of the rays on the cancer cell. Through the biochemical action the cells become diseased and if the dose is sufficient the cells are destroyed. The author believes that radium rays should be used when the disease area is limited in extent and in solid organs within whose lumen the radium can be placed as the trachea, oesophagus, rectum and vagina. The combined surgical and radiotherapy treatment is the ideal one. Surgery must remove the gross tumor whenever possible and radiotherapy must destroy the small islands of cancer tissue which are usually left behind even radical operations. It is important that one method follow the other promptly.

Malignant tumors are classified in the light of the combined treatment under three groups as follows:

1. *Superficial* or those seated in and under the skin. These are most easily influenced by the rays and usually surgery is not needed to effect a cure.

2. *Deep* or those seated in and under the mucous membranes. The author considers this group of cases the true domain of radiotherapy. Surgery or diathermy however should be used to remove the great part of the tumor.

3. *Interstitial* or those seated in and under the serous membranes. These are considered least

amenable to radiotherapy. Wherever possible, the growth if inoperable should be brought nearer the surface so that it can be more easily influenced by the rays.

It is expected that the Coolidge tube will make it possible to treat the deeper tissues as advantageously as the superficial lesions are now cared for. The outlook is considered at least hopeful even in the inoperable cases.

WILLIAM A. EVANS

Heidenhain L.: Radiotherapy of Carcinoma. (D. Ansichten der Strahlentherapie wider die Kärz nome). *Strahlentherapie* 1914 v 5. By Surg Gynec & Obst

Heidenhain emphasizes the fact that carcinomata in different parts of the body are entirely different in their course and that conclusions drawn from the treatment of cancer of the uterus, for example, cannot be applied to cancer of the breast or other region even carcinomata of the same region have an individuality they do not react in the same way to a given treatment. The chief question in his mind in regard to radiotherapy is not whether it can be substituted for surgical treatment but whether the results of surgery can be improved by combining radiotherapy with it.

Great advances have been made in the surgical treatment of carcinoma in the past 25 years and those advances are positive facts. It would be a great mistake to give them up for hopes held out by another form of treatment however brilliant those hopes might be. One great danger to be feared is that the public will become so enthusiastic in regard to röntgen treatment that they will demand it and refuse operation. No greater service can be done the patient than to point out that early operation is the only certain method of combating cancer and that while radiotherapy is very promising in certain cases it should be used only as a supplement to operation. Cancer of the uterus is the most amenable to röntgen treatment. It must always be borne in mind that röntgen doses that do not destroy carcinoma stimulate its growth. Therefore if röntgen treatment is given in response to popular demand in unsuitable cases there will be an increase in the number of inoperable carcinomata. A Goss

Sparmann R.: Experiences in the Treatment of Malignant Tumors by Radium. *Arch Surg* 1914 ix 567. By Surg Gynec & Obst

Sparmann reports the experiences in the treatment of malignant tumors by radium in the General Hospital of Vienna. During a period of about nine months 53 cases of inoperable malignant growths were treated. He emphasizes particularly that only inoperable cases were treated by radium because from the very beginning the members of the staff were convinced that radium would not be used in operable cases. They also had used radiation following an operation on tumors which were

not radically removed. In every case the clinical diagnosis of malignant tumor was confirmed by histological examination.

They had at their disposal 225 mg radium and 150 mg mesothorium. This quantity was divided and placed in fifteen applicators which were applied partly externally and partly internally in the latter case in the periphery of the tumor. Frequently the tumor was reduced as much as possible before the irradiation cross fire was also used. The filters were made of silver gold platinum magnalium and brass or of rubber in various thicknesses.

At first they gave big doses up to 11,000 mg hours at a time. In the last five months however they used at the most 1000 to 2000 mg hours for one dose. The change was made because it was found that it often had such a great influence on the general condition of the patient or that the radium destroyed the healthy tissues far beyond the limits of the tumor in too short a time. In every case the patients were given arsenic in the form of Fowler's solution to improve their general condition.

Their cases were divided into two series: the first of which received preventive and the second curative treatment. Of 6 cases treated: the first way only one has remained free from recurrence. Among all the cases treated curatively as well as preventively only 11 have remained free from tumors up to this time. Of these 7 cases treated curatively 5 were cases of epithelioma cutis (basal cell carcinoma). One was a case of carcinoma linguae, one a case of metastasis in the lymph glands after sarcoma axillae. Of the 4 cases treated preventively 3 were carcinoma of the mucous membrane of the mouth, one was a case of sarcoma orbitae. In 6 cases improvement was noted, 14 were aggravated and in 5 no effect could be seen during the period of treatment. Seventeen patients died of these: 11 died of tumor, mostly of cachexia, one from hemorrhage of meningitis, one of old age, one of diabetes and one of mediastinitis. The author's conclusions are:

From the above mentioned results it may be seen that radium is not a panacea for malignant tumors. Aside from the fact that it does not always help it often even injures patients as well in regard to the local lesions as by its harmful effect upon the general condition manifested by tachycardia with a pulse rate up to 150 and 140, dizziness, weakness, and vomiting. The latter has been observed especially after irradiation of the neck, probably due to irritation of the vagus. The local ill effect is especially marked in that the healthy tissues are badly injured so that it is impossible to prevent their further destruction. There is furthermore great danger of causing a hemorrhage or perforating hollow organs such as the intestines. There were 11 hemorrhages in the series, one of them lethal. One patient died of mediastinitis.

There is no such thing as an elective effect. The tumor-cell is not more easily destroyed because of the specific action of the radium itself but being a degenerated cell it is more susceptible to the

effect of any trauma. A greater susceptibility of the epithelium is seen only in contrast to the fibrous tissue.

As far as histological changes are concerned the statement can only be made that there is no specific change in the tissues to be seen by radium irradiation. All that can be seen is necrosis and subsequent scar formation such as could be formed spontaneously in any tumor tissue.

Radium has only a local effect; therefore it can never take the place of an operation by which all parts of tumor dissemination can be reached as by the Wertheim operation of cancer of the uterus or by the operation of cancer of the breast with removal of the lymphatic glands. It has been noticed in certain cases that during the treatment metastatic foci have been formed in the lymphatic glands.

The indication for treatment by radium in the case of a growth which has attacked a vital organ must be the same as for an operation.

The hopes placed in radium as a new and successful means in the treatment of malignant tumors have not as yet been realized. Moreover the number of cases which might be considered suitable for treatment shrinks constantly as further experiments develop the effects. GEORGE E. BRIDGES

Abbe R. Radium Beta Rays the Efficient Factor in Repressive Action on Vital Cells. *Med. Rec.* 914, 1911, 909. By Surg. Gynec. & Obst.

In conjunction with Prof. Packard Pegram and others, Abbe has carried out a series of experiments with radium upon vegetable cells and upon some of the lower animals such as mealworms and the lower forms of life found in the sea. The direct purpose of these experiments was to ascertain the influence of the β ray which he believes to be the chief factor. He concludes as follows: β rays separated from radium are demonstrated to be the efficient force most active against living cells. These rays are electrons or particles discharged from the radium atom each bearing a charge of negative electricity. What the force is which actuates living cells is unknown but it adds one link to the chain of facts to know that a charge of negative electrons carried into certain types of disorderly growing tumor cells reduces them to orderly growth permanently.

Attention is also called to the fact that the stimulating properties of radium have been confused with the stimulation that is often observed in the natural growth of tumors and while in some of the former experiments stimulation was observed the conclusions now are that it was due to an error in technique. W. S. NEWCOMER

Boggs R. H. Radium and Mesothorium in Conjunction with Röntgen Therapy. *A. J. S.* 94, 1911, 55. By Surg. Gynec. & Obst.

During the past few years physicians have proved that both the α rays and γ rays are either impulses

identical in nature differing only in wave length and power of penetration but on account of the adaptability it is impossible to advocate the extended use of one to the exclusion of the other. Where large areas are to be treated and there are deep-seated growths in which there is an intervening layer of healthy tissue the λ rays have the preference while the best results with radium are attained chiefly in those cases in which the radio active substance is brought into contact with the growth either in or on it and in which the thickness of the tumor does not exceed four centimeters.

From a clinical standpoint Boggs believes the penetration method of filtration and accessibility of application more than the agent employed determine the results in nearly all diseases which have been treated by the röntgen ray and radium. Of course radium and mesothorium are supposed to have about ten times greater penetration than even the Coolidge tube. There are only a few lesions where such light penetration is needed or used because even when treating with radium most lesions are so situated that authorities advise using filters which allow the high β rays to pass and reaction is produced by the high β and low γ rays.

In reviewing the literature of the reaction produced on tissue by contact with radium the author finds that it is certainly very similar to the well known reaction produced by the λ ray. It is more nearly identical than the physical description of radium or the röntgen ray. When the agent is applied no organ is unaffected provided the intensity is sufficiently great and the exposure sufficiently long. This does not mean that the intensity must be strong or that there is a visible reaction be produced. In this connection the following from Imray is quoted:

In general radium rays in small doses have a stimulating and in large doses a destructive action. The dose required to destroy every type of cells varies greatly for staminal cells may be destroyed by the small doses which do not harm the epithelial connective tissue or the lining of the stomach. The sensitive cells to the action of the rays varies with the type of the cell and this is what we mean by selective action of the rays. The lymphatic organs are especially sensitive to the rays the action being characterized by a destruction of the lymphoid cells. This behavior is also shown in the spleen and bone marrow but in the latter with the destruction of the leukocyte cells there occurs a reaction of the erythrocytes. Muscle tissue undergoes changes under the action of the rays. Cartilage is slightly influenced and even the large doses shows increased growth. In the lining of blood vessels a distinctly sensitive to the rays and with small doses walls become enormously and finally impervious to the lumen of the vessel while large doses cause its destruction.

From Fenzl's conclusion it is fairly well established that the λ ray produces

almost identical reaction. From the results produced by radium on angiomas and conditions closely allied to these tumors such as skin nevi or port wine stains it appears that the endothelium of the blood vessels is more sensitive to radium than to the röntgen ray although Pusey states that he can even duplicate the results of those which obtain in the treatment of vascular nevi by röntgen rays.

The therapeutic value of radium cannot be rightly fully appreciated if it has not been studied with a sufficiently complete and varied range of filtration. It is very necessary to study secondary radiation produced by the various filters and the best methods of avoiding the deleterious effects of these rays.

In treating a case either by radium mesothorium or by the λ ray a series of problems is always faced. Given a case with a certain lesion its position its extent its susceptibility to the influence of this or that radiation then the agent or agents to use must be determined. The duration and method of application can be varied almost to infinity. This enables us to realize how rich radiotherapy should be in its results when properly selected and employed.

Initially radium therapy is the method of choice in carcinoma of the rectum vagina uterus axilla etc. but even here the λ ray forms a useful adjunct so far as the adjacent parts are concerned. The rays from radium and the λ ray both affect certain cells more than others lymphoid tissue and the endothelium of the blood vessels being first affected. All cells that are undergoing rapid reproduction are more readily affected than where reproduction is normal. Tumors rich in blood vessels and spreading by the lymphatics are checked in three ways: (1) by the action on the epithelial cells (2) the endothelium of the blood vessel undergoes proliferation until the lumen is almost obliterated and (3) the channels or lymphatic glands are blocked preventing metastases.

Mahler G. F.: Electrothermic Coagulation and Röntgen Therapy in the Treatment of Malignant Disease. *J. E. C. C. Obs.* 1914. 11. 5. 19. 1.

The method consists in the complete destruction or the removal of all visible and palpable malignant disease by means of the ionization current followed or at times preceded by full doses of the röntgen rays given from as many different fields of irradiation as possible so that as much irradiation is produced as though the rays alone were applied upon for the cure of the disease.

Twenty reports were made in twenty cases treated by the method several of which were considered inoperable by the usual surgical technique.

The conclusions are: 1. Electrothermic coagulation permits the destruction of a number of inoperable carcinomata of epithelial nature.

It is bloodless operation and gives decided advantages in malignant disease about the mouth.

3 It seems that metastasis is less likely to follow because the operative area is at once completely sealed

4 The disease must be destroyed completely

5 Deep roöntgenotherapy must be applied with the best technique and with the same degree of thoroughness as if it had not been previously destroyed

6 Good results are being obtained in a number of otherwise hopeless cases

7 The time is too short to express any valuable opinion as to its permanency

MILITARY SURGERY

Jeger E. Blood Vessel Suture in War (Kriegs-chirurgische Erfahrungen über Blutgefäß sht)
Berl M W Wchnsch 94 1 907
By Surg Gynec & Obst

The author reports eight cases of suture of blood vessels during the siege of Przemyśl. Most authors have held that suture of blood vessels is seldom indicated in war because it cannot be performed at the front on account of the technical difficulties and later when it can be done the collateral circulation is so well developed that ligation of the vessels is not dangerous.

While the above is often true the author believes that in six of his own cases ligation would undoubtedly have been followed by gangrene. In one case he sutured the popliteal artery and vein in one the popliteal artery alone in two the femoral artery in one the femoral vein in one the axillary artery in one the brachial artery and in one the brachial artery and vein. In six cases the injuries were from artillery shots one from shrapnel and one from a bayonet wound. Five of the cases were completely successful one was operated on so late the gangrene could not be prevented in one other severe injuries necessitated secondary amputation, and in one the vein had to be stretched so much to suture it that it gave way later. He believes this case would have been successful if he had transplanted a segment of another vein and so avoided tension.

One of his cases was very remarkable. The arm was cold and anemic and showed no pulsation two hours after the injury. The brachial artery and vein and the basilic vein were united by end to end suture. The pulse was imperceptible on both sides after operation and the general condition was discouraging. On the second day the patient began to improve, but the pulse on the operated side was weak and intermittent for two weeks. By the end of a month sensation and function were restored in the arm. Jeger knows of only one other case in which a limb was successfully reimplanted after it had been almost completely severed one published by Jans. Many surgeons notably Carrel have experimented in the reimplantation of severed limbs mostly without success, but these two cases indicate that it is possible. A Goss

Suchanek, E. Gunshot Injuries of the Thorax and Abdomen (Über Schussverletzungen des Thorax und Abdomen) Btr 3 M Chir 194
xci 334 By Zentralbl f d ges Chir u Grenzgeb

The author reports his experience in a military hospital with 177 injuries of the thorax, 98 of which were caused by musketry bullets 69 by artillery fire and 20 were contusions caused by the bursting of shells near the wounded man. There were also 33 abdominal injuries 23 of them caused by musketry bullets and 10 by artillery ammunition.

About half of the injuries of the thorax were perforating. In these it is often very difficult to make the diagnosis. In some injuries the position of the entrance and exit shots with reference to each other are such that opening of the thoracic cavity seems to be excluded and yet there is injury of the lung on the other hand there are shots which it would seem must have caused injury of the lung but there are no clinical signs of injury to the thoracic organs. The opinions with reference to the penetrating power of pointed bullets in comparison with shrapnel bullets, with relation to injuries of the extremities do not apply in wounds of the thorax. The difference in injury may be due to the peculiar conditions of resistance in the thorax caused by the intercostal spaces.

There was hæmoptysis in 22 of the 177 gunshot wounds of the thorax and among the 86 that penetrated the wall of the thorax there was hæmoptysis in 36. The preponderance of pleural effusions in comparison with hæmoptysis is explained by shots that grazed the lungs. In 8 cases of pleural effusion infections were found that were regarded as primary and caused by the shot itself. In individual cases infection was transmitted by the pulmonary route. Lung infiltrations (Küttner) were observed in several cases. There was emphysema of the skin in only five cases, in one as a special complication of pneumothorax and hæmopneumothorax. In all the cases of contusion a grenade burst close by and the men were either struck by great masses of earth or were thrown into the air and struck the ground with great violence. In these injuries tears of the lung which may be caused by fractures of the ribs bleed more than shot wounds of the lung.

Most of the non perforating shot wounds of the thorax healed without any reaction while there was infection in most of the perforating wounds. In contrast with injuries of the extremities injuries of the thorax are seldom typical. Most frequent is the shot from the shoulder through the musculature of the back which is explained by the position of the soldier in the trenches. Among the Bulgarians there were also numerous shots directed antero-posteriorly because of the frequent bayonet charges.

The treatment should be strongly conservative. In perforating injuries hæmorrhage should be stopped by absolute rest which also excludes the danger of secondary hæmorrhage. In hæmo

thorax puncture should be made only when difficulty in breathing caused by the increasing hæmorrhage compels it. Pyothorax necessitates thoracicotomy. Pneumothorax and emphysema of the skin do not call for operation.

Among the 33 abdominal injuries 13 were perforating gunshot injuries 6 projectiles remained near the point of entrance while 12 passed through the abdominal wall without entering the peritoneal cavity once a fragment from a grenade tore away a part of the abdominal wall once there was contusion from masses of earth hurled against the patient. In 10 cases there were complicating symptoms which in 6 cases indicated peritonitis in two there was fecal fistula and in two there were signs pointing to injury of the genito urinary apparatus.

An example is given of the danger of transportation in abdominal injuries. The man was a sacrifice to transportation. Fæcal fistulae can be cured without plastic operation. Wounds of the bladder wall heal rapidly and without any reaction. There may be tension of the abdominal walls in injuries of the thorax.

The danger of abscesses of the abdominal walls should not be underestimated. Abscesses whether mixed with intestinal contents or caused by infection through bullets are the only complications which compel the surgeon to operate in the military hospital. Hemorrhage may furnish an indication to incise the abdomen. In all other conditions Suchanek holds fast to strictly conservative treatment. Of the 177 patients with thoracic injuries one with metastatic gangrene of the lung died two of the 33 cases of abdominal injuries died of diffuse peritonitis and aneurism. The prognosis of war injuries of the thorax and abdomen is favorable if the patients have medical care. *Z. A. W. A. R.*

Saer G von Treatment of Gunshot Fractures of the Extremities in War (Z. B. H. d. g. d. r. Schussfrakturen der Extremitäten im Krieg.)

B. H. d. g. d. r. 94. 35.

By Zentralblatt des ges. Chir. u. Grenzgeb.

Von S. reports one month's service in the reserve hospital in Belgrade. He says that injuries of the extremities comprise between one half and three-fourths of all injuries while gunshot fractures comprise about one fifth of all injuries.

Among 58 injuries of the extremities von S. observed 84 fractures 4 of the upper 44 of the lower extremity. He holds that roentgen examination while very interesting from a scientific point of view may be dispensed with for fracture treatment even in stationary hospitals. He lays the greatest emphasis on improvised methods with simple means. High fractures of the humerus should be treated with Chertens double ght angled splint and double extension traction. Fractures of the forearm are also treated by extension to avoid a fracture callus and by a simple right angled splint similar to Borchgrevink's. The results of extension treatment are good.

In fractures of the lower extremities von Saar points out that not only the first dressing but also the further treatment is of great importance. In treating fractures of the femur Florschütz's method is used which combines semiflexion suspension and extension.

As a transportation dressing for fractures of the femur he recommends Von Hacker's which consists of a long strip of wood as broad as two fingers provided above with a notch and below with a nail. It is applied to the side reaching from the umbilicus down to the foot and provides for simple extension. This is practically the same as the old Eschmarch's transport dressing for fractures of the femur.

Mention is made of Weissenstein's adaptation of the military stretcher for the transportation of fractures of the lower extremity in which the stretcher rods are used as external splints. In fractures of the leg he recommends for the infected cases fenestrated plaster casts for the non infected the splint extension with traction on the upper part of the shoe especially in fractures of the lower third. In general he recommends plaster casts only when infection renders frequent changing of the dressings necessary. He discusses the introduction to Military Surgery on the Battle-Field issued to the Austrian army in which he thinks too much importance is attached to plaster and papier maché dressings. *FRANK*

Oeconomiak. M.: Traumatic Paralysis of Peripheral Nerves after Gunshot Injuries; Experiences from the Last Balkan War (Über traumatische Lähmungen der peripheren Nerven nach Schussverletzungen, Erfahrungen aus den letzten Balkankriegen). *Neurol. u. Chir. 94. 333.*

Oeconomiak has observed 275 cases of traumatic peripheral paralysis not counting those which disappeared after a short time without any marked change; the electrical irritability of the nerve. In his cases there was always degenerative paralysis with complete reaction of degeneration. There were either primary injuries of the nerves, or compression by cicatricial tissue or shock effect from discharge of infantry near by. The result was the same in all three e.g. immediate and complete paralysis. In only two cases did the paralysis appear gradually within the next few days. At the time of the injury there was only the feeling of the blow no pain nor was there any pain later in spite of compression by cicatricial tissue. Pain was always caused by neuritis. Muscle contractures were rare as well as trophic disturbances. Even where there was complete section of the nerve there were seldom any trophic disturbances.

The clinical picture is confused by the fact that in direct as well as indirect injuries there is a shock effect. The latter generally disappears within one to three weeks but generally even after it has disappeared it is impossible to decide whether the

injury is direct or indirect. The only means of differentiation is that in severe lesions or in complete severing of the nerve in the beginning of the second month there appears a marked decrease in galvanic excitability. The reversal of the formula for the galvanic current is for the most part without significance for diagnosis as it may appear in very slight lesions.

Sixty-two operations were performed among them 43 nerve sutures and 19 neurolyses mostly performed by Prof. Serulanos. Ultimate results cannot be reported as the time is too short but it may be noted that the neurolyses generally did not give satisfactory results. On the second operation it was found that the nerve which at first was soft and apparently not changed had become hard and showed connective tissue degeneration.

The author thinks that there is an essential difference between war injuries and injuries occurring in civil life. Probably because of the rapid penetration of the shot there is a primary injury to the nerve. A report will be made later of the ultimate results.

FRANZ

Bowlby A. A. *The Treatment of Wounds in War*
Lancet Lond. 94 122 11 427

By S. R. Gynec. & Obst.

The author has had an unusual opportunity of studying the results of the present treatment of wounds in war having been in daily attendance in one or other of the clearing hospitals or clearing stations as they are now to be called to which the wounded are taken after being dressed in the field ambulances. They often arrive within a few hours of injury but more frequently after a longer interval of 12 to 18 hours and more rarely after the lapse of one or two days. Their powers of resistance to microbial infection are in many cases greatly lowered by the combined effects of shock from the injury from bleeding and from exposure to cold and wet with prolonged starvation.

In discussing rifle bullet wounds Bowlby says that the lacerating wounds of rifle bullets are easily mistaken for shell wounds. Instead of rifles being fired at from 800 to 1500 yards most of the rifle fire has been within 100 or 200 yards while the great majority has been when the men were almost in contact or but a few yards apart. The effect of this has been to cause the most typical explosive effects "so that he has seen the greater part of the muscles of the forearm torn and extruded through a huge rent in the skin and fascia and that without the bones being injured."

Shell wounds are further divided into wounds by shrapnel bullets and wounds by fragments of the shell case. The effect of the shrapnel bullet varies in proportion to the height of the shell from the ground when it explodes and the velocity of the shell at the same moment. If a shell bursts when it has lost its velocity and is high in the air

the bullets also are quite spent and may fail to penetrate even the clothing. But if the shell bursts close to a man whole limbs may be shattered or even torn off and the viscera may be so injured that death is practically instantaneous. A howitzer shell differs from shrapnel in that it contains no bullets but only a bursting charge. The wounds are therefore caused by the portions into which shell is shattered by the explosion and while some of these pieces may weigh several pounds others may be smaller than a bullet. The wounds caused by these shells are the most horrible of all and prove fatal much oftener than shrapnel wounds. Large portions of clothing covered with mud are frequently thrust deep amongst the torn muscles and gravel or soil may also be carried in by the shell.

The exigencies of war do not ordinarily permit of any equipment at clearing stations except that which can be easily removed at the shortest notice and as no tents or huts can be supplied use has to be made of any available space or building. The accommodation varies from a barn or a railway waiting room to a town hall or a church or a school or college. There are ordinarily no beds, and the patients lie on the stretchers on which they were carried in but there are always obtainable in the towns some beds for each of the stations. The clearing station is equipped to provide for 200 cases, but it will be some indication of the pressure if it is realized that a single station has on several occasions dressed in 24 hours more than 1000 wounded.

Bowlby states that aseptic surgery has not been practiced at the front but antiseptics are always used in every clearing hospital. The usual routine for all flesh wounds which are of the punctured variety and for all abdominal or thoracic wounds is to paint the skin far around with per cent spirits of iodine and to wash the wound itself with either carbolic acid 1 in 20 to 1 in 40 iodine from 1 to 2 drachms to the pint or with strong peroxide of hydrogen. The dressings have always been antiseptic. If there has been an extensive fracture especially of the leg or thigh with laceration then whenever it has been possible the patient has been anesthetized and the wounds have been enlarged and washed out with antiseptics, and broken bone has been removed and drainage provided.

It is not unusual in a clearing station to treat a hundred or more compound fractures besides caring for five or six hundred other men shot through the chest the abdomen the head or during the course of the day. Many wounds suppurate and he believes that the most skillful treatment would not prevent many of the worst wounds from suppurating, for these are the very patients whose arrival is liable to be unavoidably delayed because they are so severely injured and their wounds are contaminated before arrival not by the "clean dirt of the sun dried field" but by a highly septic and manured soil.

D. C. BALFOUR

GYNECOLOGY

UTERUS

Reynolds E. Forward fixation of the Cervix as a Predisposing Cause of Some Retroversions of the Uterus and an Operation for Its Release
Surg Gynec & Obst 1914 21: 538

By Surg Gynec & Obst

The uterine ligaments are not true ligaments but are reflections of peritoneum containing unstriated muscular fiber. This though new to some gynecologists has long been accepted by systematic anatomists and is indeed shown by the active retraction of these tissues when divided during operation. The uterus as a whole is sustained by these muscular fibers. The cervix is the only portion of the uterus which is attached to peritoneum by inelastic tissues viz the strong anterior vaginal wall and Goffe's ligament. Anteversion of the cervix is an arrest of development which always includes a shortening of these rigid structures.

This shortened attachment holds the vaginal portion of the anteverted cervix firmly forward while the supravaginal cervix is at the same time steadied from side to side by the powerful muscular action of the lower portions of the broad ligaments along the uterine arteries and drawn backward by the almost equally powerful uterosacral. The fundus in its turn is held forward by the disseminated muscular fibers in the upper part of the broad ligaments and the occasional action of the round ligaments. Such a uterus has an intrinsic angle situated at about the internal os but with the vaginal cervix fixed forward and with the fibers in the vicinity of the round ligaments drawing the fundus forward the action of the muscular uterosacral in drawing the middle of the organ back tends constantly to an exaggeration of this angle. With the onset of the catamenial congestion the uterine walls engorge with blood and under primary hydrostatic laws the organ tends to resume its normal shape in order to efface any increase of angulation due to the action of these muscles. Under these conditions with the cervix fixed forward and with the uterus trying to straighten itself the fundus would of necessity turn backward were it not for the muscular action of the round ligament and the unstriated fibers which accompany them. If then at any moment this action relaxes even temporarily the fundus must of necessity move backward that is with the cervix the lower pole of the organ fixed forward to an abnormal degree by straightening of the organ under the influence of the menstrual congestion of necessity throw the fundus backward in some degree though not always enough to constitute retroversion but it has long been known

that the moment the fundus moves backward even in a small degree it receives the effect of the general intra-abdominal force on its anterior face and therefore tends to move further backward in order to assume the first degree of retroversion which then tends to become progressive.

This mechanism creates a tendency toward the production of retroversion from slight accidents which would not be able to affect it in other cases. A series of observations extending over five or six years has convinced Reynolds that with the exception of cases due to neoplasms and salpingitis the retroversions do not ordinarily occur except in women in whom the cervix has more than the normal degree of forward fixation.

This condition is remedied by a transverse incision in the anterior vaginal wall with an extensive division of the tissues anterior to the cervix by blunt dissection transverse suture of the transverse wound in order to lengthen the anterior vaginal wall and a division of the posterior lip best performed by the removal of a lozenge-shaped portion of the lip. The operation is described in detail.

Fullerton W D: Uterine Sarcoma. *Surg Gynec & Obst* 1914 21: 711 By Surg Gynec & Obst

Primary sarcoma of the female genitalia is almost invariably of the uterus and ovaries. In the uterus they arise from the endometrium uterine wall or from a myoma, and originate from either the fibrous or muscle tissue. Sarcoma of the endometrium is the most common type of uterine sarcoma occurring in one third of all cases.

Two thirds of the women with uterine sarcoma are below the average in child bearing have not reached puberty or have not borne children for a long time. Compared to carcinoma they occur relatively early or late in life and are more common in nulliparae. About 2 per cent of fibromyomatous tumors of the uterus show sarcomatous transformation. The diagnosis before operation is difficult or impossible. With malignant change the tumor increases more rapidly in size is softer and may give added symptoms, which however are often late in appearing.

On section the sarcomatous part of the tumor is softer more yellowish white in color and contains less fibrous tissue than the non malignant part of the tumor. Irregularity in outline and lack of encapsulation are notable as are small areas of necrosis and interstitial hemorrhage. The symptoms are in general those of carcinoma though they are usually of later occurrence. Pain and common symptom bleeding and watery discharge may

be more profuse and metastases are of later occurrence

The treatment is complete hysterectomy as soon as the diagnosis is made from curettings or otherwise. The results are more satisfactory than with carcinoma as metastases are of later occurrence.

Benign myomata without symptoms should not be removed for fear of future sarcomatous degeneration for here the operative mortality is twice as great (5 per cent) as the probability of the myoma becoming malignant. Two cases are reported with detailed microscopic study.

Pestalozza G. The Determination of the Viscosity of the Blood in Some Tumors of the Uterus and Ovary (La determinazione d'ile viscosità del sangue in alcuni tumori dell'utero e dell'ovario). *Atti dell'Accademia di Scienze e Lettere di Torino* 1914, 41, 350.

By Zentrall. f. d. ges. Gynäk. u. Geburtsh. s. d. Grenzgeb.

The author used Hess viscosimeter and Riva Rocci's sphygmomanometer. His experiments were made on women with myoma and carcinoma of the uterus and cysts of the ovary and only in cases where diseases of the heart and kidneys were excluded. He made 22 experiments on patients with myoma and for comparison 7 experiments on cases of pregnancy in the third and fourth month. The determination of the sphygmoviscosimetric coefficient may be helpful in the differential diagnosis between myoma and pregnancy in myoma the viscosimetric value is decreased the sphygmometric increased. The determination of the viscosimetric coefficient in carcinoma — 16 experiments — is valuable only in conjunction with other clinical methods of diagnosis. In cysts of the ovary it has no value as determined by 9 experiments. **MISTRON**

Sherrill J. G. and Griswold, A. V. Uterine Fibroid Myoma Gastric Ulcer Its resection and Gastro-Enterostomy. *Int. J. S. & G.* 1914, 41, 411. By Surg. Gynec. & Obst.

The authors while performing a hysterectomy for uterine fibromata, found an indurated mass near the pyloric end of the stomach. From the history of the case and the fact that there was no glandular enlargement the diagnosis of an ulcer seemed probable, and a posterior gastro enterostomy was successfully made. **L. K. F. FARRAR**

Lee E. W. Complete Calcareous Degeneration of a Uterine Fibroid. *Internat. J. S. & G.* 1914, 41, 4. By Surg. Gynec. & Obst.

Lee reports the removal of a large pedunculated uterine fibroid which had undergone complete calcareous degeneration from a patient on whom he had seven years previously incised and evacuated several nodular calcareous cysts of the cervix. He considers it of considerable interest that although the fibroid had undergone complete calcareous degeneration there was an absence of calcareous deposits elsewhere in the body and no evidence of arteriosclerosis. **L. K. F. FARRAR**

Gerstenberg E. Concentrated Formalin as the Most Certain and Most Rapid Acting Chemical Substance in the Treatment of Climacteric Bleeding (Konzentriertes Formalin, das am schnellsten und sichersten wirkende chemische Mittel zur Behandlung klimakterischer Blutungen). *Zentralbl. f. Gynäk.* 1914, xxxviii, 20. By Surg. Gynec. & Obst.

Following the example of Winckel and Menge 20 and 15 years ago respectively the author has used concentrated formalin in cases of idiopathic climacteric bleeding with excellent results. He believes that the application of the formalin is better than any of the other therapeutic measures employed such as curettages, atmo-caus and zinc chloride application. He is finally convinced that if bleeding persists after a double application 5 minutes apart of formalin there is something else as the cause most commonly myoma. It is not to take the place of X-ray therapy but as the latter is expensive an application of formalin may precede it causing an immediate cessation of the bleeding permitting a much shorter X-ray treatment.

He has only two failures to report and both cases were due to distinct pathological causes one due to a polyp which was overlooked and left in the uterus and the other to a benign adenoma of the corpus of a prolapsed uterus. Neither case was adapted to the treatment.

The technique is as follows. The vagina is wiped dry with sponges. The formalin is introduced on cotton on a Playfair sound at two 5 minute intervals for a period not to exceed 30 seconds in total, the cotton having been held in the formalin solution for at least 10 minutes. The cervix is not sponged before the introduction of the formalin. The bloody formalin solution must be carefully wiped up as necrosis of the vagina may occur. A tampon is therefore introduced into the vagina and pressed firmly against the cervix. Douches may be given 2 days later until then the treatment consists in rest in bed and cold applications to the abdomen. **L. A. JUNKER**

Hirschberg A. Vicarious vs Complementary Menstruation (Über die vikariierende bzw. komplementäre Menstruation). *Zentralbl. f. Gynäk.* 1914, xxxviii, 929. By Surg. Gynec. & Obst.

Just as pregnancy influences the entire female organism causing changes in organs distant from the pregnant uterus, so is menstruation a phenomenon which influences the entire female organism not merely a periodical uterine hemorrhage. We know now that menstruation is not a mere local phenomenon but only the most prominent external symptom of a process influencing the entire organism. Perhaps the theory is proved that the harmonious interaction of the various internal secretions is the one factor which produces them. Like Bromwell Branch, the author believes that each individual disturbance of this harmonious interaction leads to menstrual anomalies — 4

particular functional disturbance being as has been proved a disturbance of the calcium metabolism.

Menstruation usually manifests itself in general bodily and psychic symptoms as pains irritability etc. and the appearance of bloody flow from the genital. This blood according to Hirschberg comes from the mucous membrane of the uterus and tubes. Occasionally however this bloody flow makes its appearance from other extragenital organs instead of from the uterus and tubes. This is termed vicarious menstruation and has been observed repeatedly. In most case this vicarious menstruation occurs from previously present orifices i.e. the mucous membrane. According to Baumgarten and Kauter a pure vicarious form of menstruation is rare in most cases the vicarious form of menstruation alternating with the normal form. An extragenital form may however accompany the normal menstrual flow and this is called by the French complementary menstruation.

The author then reports a case in which for 10 years from the seventeenth to the twenty seventh year complementary menstruation occurred from both mammae during each normal period. The mammary bleeding was accompanied with drawing pains in the mammae and lasted 6 to 7 days whereas the uterine bleeding lasted only 3 to 4 days. The mammary bleeding suddenly ceased 4 years ago and has not reappeared. Whether this phenomenon lasting 10 years was dependent upon an internal secretive disturbance or whether as Jäschke believes it depended upon a vascular neurosis remains to be determined.

L. A. JONKKE.

Gumprecht G. The Influence of Menstruation on the Blood Picture in Normal Individuals (Der Einfluss der Menstruation auf das Blutbild bei gesunden Individuen) *Berlin Geburtsh. u. Gyn. Abh.* 94, 435.

By Zentralbl. f. d. Ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The previous reports on the condition of the blood picture were variable. The author examined the haemoglobin content and the blood picture for five to six months in women who were menstruating regularly. The blood was taken twice to four times during the period and five to seven times in the intermenstrual period. The counting was done by Burker's method the staining by May Grünwald's. By curves and tables the author showed that there were no changes in the haemoglobin content and that neither erythrocytes nor leucocytes showed uniform changes. The leucocytes often rose during the period. Every woman has a typical eosinophile curve in one case there may be a rise, in another a fall while a third may remain stationary.

RIETHEIM.

Black Treatment of Amenorrhoea (Zur Therapie der Amenorrhoe) *Zentralbl. f. Gynäk. u. Geburtsh.* 94, 106. By Surg. Gynec. & Obst.

The amenorrhoea which the author discusses here is not that associated with chlorosis severe anaemia,

tuberculosis or other constitutional ailments in which the amenorrhoea usually leaves impairment of the general condition but he speaks of the idiopathic form dependent upon functional disturbance of the uterus or ovaries or both. Under amenorrhoea he included those cases of oligomenorrhoea dependent upon the same cause and appearing in two forms (1) a very slight flow lasting a day or less and (2) a very slight flow every 3 to 4 months.

The symptoms in girls and women in the twenties were of local nature cramplike abdominal pains sacral pricks dizziness headaches fainting spells and even epileptiform convulsions whereas the symptoms in women beyond 30 years were more those of an anticipated climax hot flashes profuse sweating general malaise inability to work and above all increased deposition of fat.

All these patients were first treated with hot douches to stimulate the atrophic uterus later with ovarian or corpus luteum extracts without or in combination with iron preparations and also massage and scarification of the cervix. By these measures a fair percentage of successes was attained.

Wherever improvement however was not apparent in 3 to 4 months the author used the intra-uterine stem pessary in 22 cases. Details are given in regard to results obtained. In three cases failure resulted in the other 19 cases distinct success was obtained. In 7 cases a pure amenorrhoea existed 2 cases were in young girls and were of 4 to 5 years duration. In 12 cases an oligomenorrhoea was present the type of which was described above extending over a period of 2 to 5 years.

The 7 cases of amenorrhoea were all cured not only during the period of wearing the pessary but they have since remained well. The pessary usually exerted its influence within 10 to 14 days in more severe cases within 2 to 3 months. Similar results were obtained in the oligomenorrhoea cases a marked increase in fluid appearing at the next menstrual period.

The pessary remained *in situ* for 14 days to 8 years. Sometimes it was expelled spontaneously and was removed twice as the bleeding became too profuse. In some cases it was used intermittently during the year. His aim was to employ the pessary 8 to 12 months although good results were obtained in from 6 to 8 weeks. The symptoms disappeared in 14 of the 19 cases. In two cases absolutely no influence was exerted upon the dysmenorrhoeal phenomena.

The author considers the intra uterine stem pessary an excellent medium for curing functional amenorrhoea or oligomenorrhoea. It accomplishes this in the great majority of cases in which all other means fail. Its action is all the more certain in those cases in which the symptoms are severest. Its use is harmless and the functional improvement or cure persists after removal of the pessary.

L. A. JONKKE.

Kosminski E.: Treatment of Amenorrhoea with Extract of Hypophysis (Zur Behandl ng der Amenorrhoe mit Hypophysenextrakten) *Deutsche med Wch schr* 19 4 21 655

By Surg Gynec & Obst

The treatment of amenorrhoea has been one of the most unsatisfactory fields in gynecology. Until recently it has been limited to measures to produce local hyperaemia of the sexual organs. In recent years however animal experiments have shown that there is a close relationship between the internal secretion of the hypophysis and that of the ovary. This seems to be shown too by the fact that there are marked changes in the hypophysis in pregnancy and by the pathological conditions in acromegaly and dysplasia adiposogenitalis. It may be regarded as proved that in diseases of the hypophysis the hormone is lacking that stimulates the ovary to activity. After removal of the hypophysis more or less marked atrophy of the ovary takes place. Therefore where there is a lack of balance between the hypophysis and the ovary amenorrhoea necessarily occurs.

A few authors have published cases of treatment of amenorrhoea with extract of hypophysis. Fromme treated 12 cases in 5 menstruation was promptly reestablished 5 were failures and 2 doubtful but in all the cases there was improvement in the subjective condition. Hofstaetter used the treatment in 33 cases with success in two-thirds of them. Fries reports two cases successfully treated.

Kosminski reports 24 cases of his own with success in 20 to the extent that menstruation was reestablished. Permanent recovery for more than a year resulted in 6 cases. Some of the patients have been lost sight of. Cases were excluded that showed general diseases, such as chlorosis, tuberculosis, Basedow's disease, etc. The cases treated were those showing infantilism, subinvolution of the uterus, adiposity, preclimacteric amenorrhoea, nervous diseases such as neurasthenia and hysteroleptasy and oligomenorrhoea from cold disease of the adnexa etc. Not more than 20 injections were given in any case and after 10 injections there was an interval of a week. The urine was examined occasionally for diabetes has been known to appear after long continued hypophysis medication. There were no bad effects from the treatment. Kosminski thinks many cases of amenorrhoea are due to hypofunction of the hypophysis and in cases where no other cause can be demonstrated hypophysis treatment should be given. A Goss

Dorr R. C.: Malformations of the Uterus and Vagina: a Case of One of the Rarest Forms. *Med Herald* 9 4 xxxiii, 459

By Surg Gynec & Obst

The following case of a rare condition is reported. The patient gave a negative family history. She was the mother of four children all bright and healthy. A few days before examination she had an abortion which was followed by infection. Upon

examination a double vagina was found with the septum extending well between the large lips, with a fetid discharge coming from the left uterus. This uterus was curetted and the perineum repaired. A year and a half later the patient was delivered of a healthy boy from the right uterus.

EDWARD L. CORDELL

Jolly: Inversion of the Uterus (Über Inversion des Uteri). *Ztschr f Geburtsh Gynäk* 1914, lxxvi, 280

By Zentralbl f d ges. Gynäk u Geburtsh 2 d Grenzgeb

The cause of inversion is to be found in pathological processes in the musculature of the uterus and in pathological relations between the wall of the uterus and the placenta. A case of inversion in placenta accreta is described and a picture of a microscopical section of the uterus is given. There is complete lack of the spongy substance of the layer of mucous membrane between the placenta and the wall of the uterus. ALTSTADLER

Presley J. E.: Complete Inversion of Uterus. *J South Ca M A s* 19 4 2 735

By Surg Gynec & Obst

The author reports a case of complete inversion of the uterus which he was called to see twelve hours after it had occurred. The midwife and others had mistaken the protruding mass for retained placenta and had made repeated attempts to pull it away.

No cervical ring could be detected and after cleansing the uterus and vagina partial reduction was effected by moderate compression of the upper part of the mass with one hand while with the other the fundus of the uterus was pushed up by a pad of gauze on a dressing forceps. Complete reduction was not possible in this way but occurred spontaneously while the uterus and vagina were being irrigated with hot normal salt solution presumably due to relaxation of the cervical ring from the heat. No further history of the patient is given.

S. A. CHALFANT

Gardner W. S.: Round Ligament Suspension of the Uterus. Fifty Five Cases. *M Ryland M J* 19 4 lvi 296

By Surg Gynec & Obst

The author bases his report upon his own personal experience. He reviews the symptoms and the results obtained from the suspension of the uterus by the round ligaments either by the method described by Gilliam or by bringing the round ligaments up through or near the inguinal canal. In both classes the round ligaments were anchored to the fascia over the recti muscles. Only cases in which the retrodisplacement was the predominant lesion were included. 11 cases had reported either in person or by letter within a few months. No cases were included that had been operated upon less than one year. About 75 per cent of the patients had borne one or more children.

The symptoms observed in the order of their frequency were as follows: backache, dysmenorrhea

rhoea pelvic pain constipation occipital headache menorrhagia irregular menses disturbances of the nervous system frequent micturition painful micturition nausea and paroxysmal intermenstrual pain

Of the 55 patients operated upon 41 were entirely relieved. In 6 cases there was marked improvement but not entire relief in 6 cases the uterus was held in good position but the symptoms continued. In 2 cases the symptoms were not abated but it is not known whether the uterus retained its correct position. In not a single case examined was the uterus found out of position.

After discussing the cases which were not relieved a short review is given of the treatment of retrodisplacements. The author thinks that very few cases can be permanently cured by pessaries. The ventral suspension the Baldy Webster and the Gilliam operations are discussed.

Of the ventral suspension he says that the frequent failure to retain the uterus in position the occurrence of ventral fixation in place of the intended suspension and the complications during pregnancy and labor in patients upon whom this operation has been done have caused it to be abandoned by nearly all surgeons. Polak's results with the Baldy Webster operation are quoted and the conclusion reached is that the operation is applicable to a very limited class of cases. The objections to the original Gilliam operation are that it creates two artificial pillars extending from the uterus to the abdominal wall and that the line of traction is not in the normal line of the round ligaments. Both of these objections are overcome by bringing the round ligaments through the abdominal wall near their normal point of exit.

Malkowsky D. Delivery in a Case of Septum of the Uterus and Vagina (G b r t bei Uteri septus et agn. sept.) *F. i. hr. f. P. af. Pöbel. k.* 9 4 39

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

A primipara was delivered at the end of the seventh month with severe pains after rupture of the membranes. The vagina had a sagittal septum and two external orifices. In the course of delivery the vaginal septum ruptured. The child was born spontaneously and weighed 1 650 gms. The placenta which had to be separated manually was in the left half of the uterus, partly on the fundus partly on the septum of the uterus. On the third day after delivery there were pains resembling those of labor and the decidua of the right half of the uterus was discharged. Jevvrrza

Bernard F. Treatment of Discharges of the Uterus and Adnexa at Mineral Springs (Traitement hydro-minéral des affections utéro-ovariennes) *J. d. phy. théor. p.* 9 4, 22 303

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Water from sulphur springs acts on the uterus and ovaries as an emmenagogue and a haemostatic at

the same time stimulating motion in the uterine musculature like scale quinine sulphate and electricity. The effect is on the nervous system. The nutrition of these organs is also stimulated. The indications are torpid affections with severe catarrh such as herpes syphilis and scrofula. Contra-indications are erethistic forms of scrofula and diseases of the liver stomach and intestines.

Sodium chloride spring water with low medium or high mineral content acts as an emmenagogue and predisposes to congestion. If discharge and pain are increased the treatment should be made less strenuous. It tends to clear up pelvic exudates. Mild attacks of pain announce the beginning of the desired leucocytosis. Indications for this treatment are lymphatic and scrofulous processes and exudates in which there is no fresh inflammation. Contra-indications are neurasthenia dyspepsia and enteritis.

Water from springs with a low undetermined mineral content has a sedative action from its radioactivity. The treatment consists in full and sitz baths and rectal and vaginal douches — 38 to 50 to 55 degrees — mud vapor baths and vapor douches. Monn.

Shoemaker G. E. The Present Place of Vaginal Hysterectomy in P. Inc. Disorders. Summary of Fifty Consecutive Cases. *Penn. M. J.* 1914 xviii, 84. Bv S. rg. Gynec. & Obst.

Where hysterectomy is to be performed advantages are claimed for the vaginal operations in the following conditions:

1. In very stout multiparae with pendulous abdomens and relatively small disease areas low down. Here an abdominal incision must be very large the field is very inaccessible through it and the cosmetic results are not good the scar often forming a great depression when the patient is in the upright position. It is very difficult to secure firm union.

2. In clinically suspicious conditions very early carcinoma especially of the endometrium thorough preliminary cauterization being done. The so called precancerous conditions of the endometrium belong here. Where there is loss of weight excessive and increasing bleeding near the menopause with a chronic irritating discharge where curettings show as yet no positive malignancy but certain suspicious findings the uterus is better out and better to be taken out by the way of the vagina.

3. In certain cases of retroversion and descent in elderly women with large cervix diseased endometrium and very large uterus. Not all of these require hysterectomy but it is no more form d. ble than the long and complicated resections and plastic work which would otherwise be necessary and which would after all leave an endometrium of uncertain future.

4. Where no symptoms point to other organs and the disease is low down.

5. Where cosmetic results and future comfort are important.

6 Where other things being equal the route of the lowest mortality and lowest morbidity must be chosen. That route is vaginal in good hands. Probably because of woman's original adaptation to receive pelvic traumatism without shock as in parturition the invasion of the lower peritoneal cavity per vaginam and the necessary handling appear to disturb the normal balance less than an approach through an incision higher up.

7 When the preservation of the cervix and upper vagina are not important to that individual.

8 In stout women with poor heart and poor kidneys who are not very good operative risks.

In fifty consecutive vaginal hysterectomies but in no patients died both from uremia on the tenth day. Twenty-eight per cent were fibromata, 18 per cent were malignant and 54 per cent were adenomata with hemorrhage.

Carcinoma cases are considered to be most advantageously treated by the abdominal route or by the combined method.

A number of malignant cases treated by vaginal hysterectomies have remained well ten to eighteen years after the operation.

The author states that as experience has increased the vaginal operation is considered safer than abdominal hysterectomy. The patients are more comfortable and better pleased afterwards. It is especially adapted to precancerous conditions late in life. Those submitted to it require selection, as it is not adapted to all. D. H. BOYD

Lilienthal H. The Relation of Gynecology and Urology to General Surgery. *Med. Rev.* 94, lxxxv, 872. By Surg. Gynec. & Obst.

While gynecology is only a division of general surgery its boundaries are so vague that it appears very doubtful whether it is essential for the obstetrician to have any special knowledge or attribute not possessed by all educated surgeons. In the non-operative part of the work a technique and diagnostic skill may be developed as a result of daily and long-continued practice, but this is aside from the matter of gynecological surgery and it can be acquired quite as easily by physicians not trained at the operating table.

With urology the case is somewhat different. This may be roughly divided into what the author calls minor and major urology. The occasional cystoscopist will only be embarrassed and humiliated if he fails to enter the ureters in a difficult case while on the other hand the so-called pure urologist who ventures without ample preparation in to the domain of major surgery is liable to feel, in addition to mere embarrassment, the qualms of conscience.

Surgery has become far too broad for any man to know it all and so specialization is inevitable and as proficiency is attained in higher degree there will doubtless be more and more differentiation.

That portion of genito-urinary surgery which deals with the local treatment of the urethra the

bladder and its appendages and the ureters and kidneys may be designated as minor urology. Certain operative procedures seldom requiring general anesthesia should be included. As thus described urology may be regarded as a legitimate specialty for the prosecution of which great surgical experience is not necessary. If a trained surgeon has the inclination and opportunity to add technical urology to his accomplishments there is surely no reason why he should not do so, but if after years of exclusive specialization he takes once more upon himself the responsibility of a major operation he should make sure that the march of progress has not left him too far in the rear.

The conclusions are:

1. Operative gynecology should not be undertaken as a specialty except by those who have been fully trained in general surgery.

2. All general surgeons should be trained in gynecology.

3. Diagnostic or minor urology may be undertaken by any qualified physician.

4. Major urology is only for the fully trained surgeon. EDWARD L. CORNELL.

ADNEXAL AND PERIUTERINE CONDITIONS

Adachi S. The Occurrence of Doubly Refractive Lipoids in the Human Ovary and Uterus (*Über das Vorkommen doppeltbrechende Lipide in menschlichen Ovarien und Uteri*). *Ztschr. f. Geburtsh. G.* 94, lxxvi, 35.

By Surg. Gynec. & Obst.

Normally the infantile ovary contains variable amounts of fat stainable with Sudan III. Most of it is contained in the theca interna of the atretic follicles or the cysts formed from them. There are also single large fat-cells present throughout the ovarian tissues. Doubly refractive lipoids occur in the theca cells. They are present most often in the form of crystals, more rarely in droplets. Thus the occurrence of either fat or lipoids, the latter being an accompanying phenomenon, is the missing up of fats is not of pathological origin in the infantile ovary. Much the same is true of the adult organ. In it the fat-cells with doubly refractive lipoids are especially abundant about the corpora albicantia. The author could not determine during what ages the fat and lipoid contents increase or decrease respectively in the ovarian tissues. But he finds that they are most abundant about the corpora albicantia of those individuals who are in the early periods of sexual activity.

Ovaries obtained in the early puerperium show that the lutein cells of the corpus luteum graviditatis contain more or less distinct fat-droplets, usually few in number. With the progressing degeneration of the lutein cells these droplets appear within connective tissue cells and leucocytes. Doubly refractive crystals are usually absent at this time but reappear in the latest stages of the corpus luteum changes.

The infantile uterus normally contains very little fat and no doubly refractive lipoids. In the adult uterus the latter were seen in small numbers wherever hemorrhages had occurred. In the older individuals small fat-droplets may be seen at the poles of muscle cells. This phenomenon becomes more apparent with the progressing senile atrophy of the organ. None of these fat-droplets ever show double refraction. A process similar to this seems to occur during pregnancy. In the later puerperium large amounts of fat-cells but with doubly refractive crystals are seen which seems to be fairly characteristic of this stage. The condition is generally more marked in the interstitial than in the muscle tissue.

The origin of the lipoids in question seems to point to the cholesterol ester group or cholesterol fatty acid compositions. Whether the cholesterol products are present primarily or formed secondarily in the neutral fats the author is unable to prove. His hypothesis is that the changes which normally take place in the lutein cells have to do with the throwing out of fat substances which in turn are taken up by leucocytes and connective tissue cells and here undergo further changes. L. A. EwC

EXTERNAL GENITALIA

Field T S: Pathological Vaginal Discharges
J Fla M Ass 924 1, 1955

By Surg Gynec & Obst

Field reports his deductions gathered from one thousand cases and summarizes his conclusions.

1 Every case of leucorrhoea demands a careful macroscopical examination of the generative organs and a microscopical examination of the discharge.

2 Chronic gonorrhoea is too often overlooked for want of careful microscopy.

3 Changing the reaction of the discharge seems to be of some value in treatment.

4 Iodine is the best agent in treating these conditions.

5 Vaccines are of little value and cannot be depended upon.

6 Curettage is never indicated by itself as a treatment for leucorrhoea.

7 Every discharge from the vagina or cervix other than the normal menstruation, normal lochia and the mucous discharges ante partum are abnormal and have a pathological basis. The cause is always local and usually in plain sight.

8 No doctor does his duty if he allows a patient complaining of leucorrhoea to leave his office without having been thoroughly examined or if he examines such a patient without taking a microscopic diagnosis.

The author emphasizes the fact that endometritis is a rare condition causing leucorrhoea and that curettage is more a danger than cure. Also a thorough examination both macroscopic and microscopic should be made in all cases in order to make an accurate diagnosis. T. C. W.

MISCELLANEOUS

MacNaughton Jones H: Expectancy and Fecundity in Gynecology. Med Press & Co
914 xviii 562 By Surg Gynec & Obst

The author rather condemns the wait and see policy and advocates operation in pelvic conditions and in this way alleviating much suffering. All curettings should be examined for malignancy.

A communication of Finch as to the use of radium emphasizes the following points:

1 It is absolutely wrong to regard radium as a cure for cancer of the genitalia though in many cases of fungating and ulcerating carcinoma of the cervix the results are marvellous exceeding any other known method of treatment. He instances cases in which the symptoms have been in complete abeyance for two years.

2 Treatment of epithelioma of the vagina and vulva is less satisfactory that attacking the mucous membrane is the more intractable. He quotes a case however in which the disease microscopically verified has up to the present been completely arrested.

3 He has known cases in which the disease which was pronounced inoperable was rendered operable by radium treatment.

4 He is of the opinion that exposure to radium after operation though not positively preventing recurrence does delay it.

5 After extensive pelvic operations as for example Wertheim's the greatest care must be taken to calculate the doses accurately otherwise owing to the widespread impairment of the atrophic nerves extensive tissue destruction may follow.

Arrest of growth and reduction in size with the spontaneous cure of a myoma do very rarely occur but so seldom that this fortunate solution cannot be taken into serious consideration in treatment. One factor in the success of operation must be clearly kept in mind and impressed on the patient and friends: delay impairs the health lessens resistant vitality and also allows local complications to occur which increase the severity and length of the operation and the final percentage of its risks. EUGENE CARY

Zwiefel P: Experiences with Mesothorium Treatment. (Trifluoride of Thorium) Mesothorium mbech d
1 g) Z. f. M. f. G. 24 10 4 xxxvi 089

By Surg Gynec & Obst

The author describes the effect of mesothorium on vulvar cancer. The disappearance of the cancer cell can be traced through the various stages until practically nothing but connective tissue can be seen at the end of the treatment. That the action is selective in character is manifested by the poor staining of the cancer-cells whereas the tissue cells take practically normal staining characteristics. Too much significance however should not be attached to this selective action because symptoms such as colic, drawn sensation and accumulations of gas, speak for bowel injuries.

Whether we can speak of cures of cancers situated in deeper lying organs as cervical cancer is time alone can decide. It is interesting to note whether the action of mesothorium is truly selective or whether it opens upon the accompanying inflammation of surrounding tissues. The fact that surface cancers have disappeared after an attack of erysipelas has been conclusively proved. A retrogression of deeper lying cancer as a result of less inflammatory conditions has also been observed but later observations have also shown a redevelopment of the cancer with resultant death.

It is difficult to determine whether the action of mesothorium is truly selective for cancer cells or whether the benefits obtained are due to the inflammatory condition in the pus induced by the mesothorium. In case after case the cancerous lesion rate and are absorbed while due to the hypothesis that these absorptive products may have an action similar to that of the autolytic acids.

At any rate the treatment with mesothorium is so necessary and useful in inoperable cases that it should be employed and given a thorough trial. It is only through multiple observations carried on by many men that a definite conclusion can be reached as to whether we may hope for permanent cure.

Dirkison R. L. The New Efficiency System and Their Bearing on Gynecological Diagnosis. Am J Obst Gyn 1941 85.

The author concludes that the method of Taylor's Scientific Management should prove adaptable to all health practices. For example in dispensary and hospital a lot group ligatures responsiveness would then be reacting function processes would be standardized. It is tedious to writing in trust in standard out thoroughly and in perfect would check upon results and the whole is preceded and instantly mapped in detail study of time and waste.

An outline of an interview with the author is given with a chart of function. Sugested standard are listed and a sample printed form submitted as has a preliminary history to be taken by the patient herself and lists as to gravidity and women at forty. Reference is made to cooperative method and the use of the selected patient clinics of New York. The author of the Hospital Survey Committee of the Philadelphia County Medical Society representing fifty five hospitals in the city of Philadelphia and in associations of doctors.

Albrecht H. The Use of Coagulum in Gynecology (The American Journal of Obstetrics and Gynecology 1941 85).

Coagulum is a substance promoting coagulation of blood made by Lönbo's Koche's method from animal blood platelets by fractional centrifugation.

It contains the coagulation promoting substance from the platelets called "cytozyme" which in contrast to the serum of the blood plasma is thermostable. The preparation is now produced commercially by the Association for Clinical Study of Basel.

Lönbo described it as a substance for promoting coagulation rapidly and effectively. Its efficiency was proved by test tube experiments as well as by subcutaneous and intravenous injections. The time when the effect lasted about one hour decreasing the coagulation time of the entire blood mass considerably.

The author employed the coagulum in gynecology after reading of the excellent results published by Lönbo and later corroborated by Kocher and Linder in the surgical field.

The substance is a powder which always fresh is prepared as a 10 per cent solution in normal saline for use. It may be boiled 2 to 3 minutes without impairing its activity in the least. Locally the blood is first spunged away and with a swab the blood is spread against the bleeding spot with considerable pressure and a sponge applied and held there a short time. If the fluid is a sponge saturated in the solution is firmly applied against the bleeding spot and held there a short time.

The author's conclusions are as follows. The substance is very effective and acts promptly in all cases from fistulae and in parenchymatous hemorrhages but has little or no effect in arterial or severe venous hemorrhages. The latter is easily explained as the substance like any ordinary clot is washed away by the blood under pressure. No good results were obtained in vaginal operations, placental operations or in vaginal sections nor in menorrhages and uterine hemorrhages.

The tampons made with a saturated sponge in a cervical crater also produced no appreciable effect in the hemorrhages.

Excellent results were obtained by its employment in abdominal operations in which surface bleeding occurred in the cul-de-sac or from the raw surface of the wall following separation of adhesions. It is therefore an extremely valuable substance in severe laparotomies with dense adhesions to break the omentum effectively and in a short time prevent secondary hemorrhages and the necessity of prolonging the time of operation to secure the rough hemostasis.

He further mentions it in essential hemorrhages of girls with increased coagulation time injected 4 gm of 10 per cent solution intramuscularly to the thigh. The coagulation time was not increased but a period of about 10 hours. Furthermore the subcutaneous injections were extremely painful and not repeated. Lönbo later advocated its employment in physiological salt solution, thus creating the same incident to the use of the same intravenous solution. This apparently would be of little use with considerable shock due to loss of blood flowing in prolonged operations.

The author concludes that coagulen is a valuable substance in operative gynecology if used in a 10 per cent sterile solution for oozing from flat raw surfaces as well as for bleeding from parenchymatous organs
L. A. JUNKER

Pierrat L.: Pelvic Neuralgias (Les névralgies pelviennes) *J d sages femmes* 1914 xlv 75

By Zentralbl f d ges Gynak. u G burtsh d Grenzgeb

The pain in pelvic neuralgias is generally continuous with periodic exacerbations. The seat of the pain as felt by various patients is different. The entire pelvis may be sensitive or the pain may be referred to the uterus or ovary. Neuralgias in the pelvis show no tendency to spontaneous recovery. The painful points may be found on examination and they vary according to the nerve involved. The following nerves may be involved and each has its pain points: the ilio lumbar, the most frequently involved, the obturator, the femoral, the nerve of the levator ani, the internal pudic and the sciatic. The treatment is general and local. In local treatment hot baths have proved the best.
DEV UX

Martin A.: The Stem Pessary (Der Strömestift) *Monatsschrift f Geburt u Gynäk* 94 xl 665
By Surg Gyec & Obst

The stem pessary has fallen into disrepute because it has been so frequently used to prevent

conception but Martin believes that it has a legitimate use in certain cases of amenorrhoea and oligomenorrhoea especially those caused by infantile development of the uterus. He has had excellent results in such cases and has never seen any harm result when strict asepsis was observed. A. Goss

Stokes, A. C.: Diseases of the Urinary Tract Produced by Diseases of the Genital Tract in the Female. *J Lancet* 94 xxxv 593

By Surg Gynec & Obst

The author aims to show that diseases of the genital tract in a certain number of cases produce pathology in the urinary tract of the female for example pelvic cellulitis, tubal infections, tumors and the like may produce bladder displacement or adhesions of the bladder to the abdomen or genital viscera or in some cases may produce obstructions to the ureter by connective tissues pulling it out of place. He believes that many diseases of the urinary tract are mistaken for diseases of the genital tract. Cases are cited where operations have been done on the genital organs for hydronephrosis while hydronephrosis was not the real cause of the trouble. He is of the opinion that operations done on the genital organs have in some cases produced trouble in the kidneys and ureters following the same.

Six cases are cited showing various combinations of these two conditions.

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Gilbert J.: Report of a Case of Extra Uterine Pregnancy. *Trans. St. J. Med. Soc.* 1914. 1:1. By S. R. C. & C. P. 1.

Gilbert describes a case of ectopic gestation of two and on half to three months duration in a patient 24 years of age who had been married four years and had born one child two years previous to her present pregnancy. The last menstruation occurred October 4, 1913, and on November 7, 1913, she had an attack of sharp abdominal pain which was followed shortly by a uterine hemorrhage. The condition was diagnosed as an abortion and the uterus was curetted. On January 1, 1914, she first came under the author's care. Operation was at once advised and performed. An abdominal section disclosed a ruptured gestation sac from which protruded a two or three half three month fetus. The sac was adherent to the right tube, ovary, uterus, bladder, and rectum but was shut off from the general abdominal cavity by the peritoneum which had become adherent to the bladder and pelvic peritoneum. The patient made good recovery. I. K. P. 2.

Thwaites, J. A.: Eclampsia. *South. M. J.* 1914, vol. 366. By Surg. L. J. C. & W. 1.

The author thinks that uterine findings show the effect rather than the cause of the toxemia and he calls attention to the fact that investigators are diverting their attention from the kidney to the placenta and ductless glands.

He gives 70 per cent as the maternal mortality and 50 per cent as the fetal. In considering the prognosis the following are taken to be unfavorable signs: Deep coma coming on after only one or two attacks; complete anuria; hemoglobinuria; and continuous high temperature. When the pulse which is full and strong at the commencement of the attack becomes soft and frequent and the sighing grows more marked the prognosis is extremely grave. Increased secretion of urine is a sure sign of recovery. He recommends rapid delivery. A. C. Beck.

Hull, L. T. and Rohdenburg, C. I.: Experiments in the Etiology of Eclampsia. *Am. J. Obs. G.* 1914, vol. 99. By S. R. C. & C. P. 1.

The authors summarize their experiments and apply them to the interpretation of the etiology of eclampsia as follows: Bacterial disease and intentional infection excepted pregnancy is the only condition in which complex protein material is introduced into the general circulation parentally.

1. Ferment active in molarous protein when introduced parentally induces extensive degeneration of the liver and at a rate but slight degeneration in the kidney. These lesions probably are equivalent in the rabbit to those seen in the organs of the eclamptic human female.

2. If molarous protein is introduced to destroy the enzymes and then parenterally introduced produces a rabbit but slight lesion in the liver it damages it however to a marked degree as evidenced by enormous quantities of albumin in the urine. The animals die in convulsions and reproducing the symptoms of eclampsia in the human subject.

3. Leucine, one of the products of autolysis, produces on injection a marked degeneration of the liver both in rats and in rabbits. In the rat, degeneration of the kidney also is induced though this does not occur in the rabbit. The blood cells are killed before leucine can be formed hence hepatic degeneration is the injection is autolysis.

From the observations stated above the authors believe that eclampsia develops in the following sequence: An overload of fetal elements is thrown into the circulation and whether in the circulation or not is autolysis with the formation of an excess of leucine. The excess of leucine injures the hepatic vessels with consequent thrombotic clouding and swelling local necrosis and more or less complete autolysis of the liver cell. The renal changes are probably due in part to other products of autolysis, and perhaps also to protein fractions incompletely broken down by the liver. The experiments further suggest that a negative protective ferment in a known pregnant animal and a determination of the leucine content of the blood will prove to be diagnostic procedures of value. It is possible that a negative action so often noted in eclampsia both in man and in animals is due to the inhibition of the activity of the ferment by an excess of their own products. C. H. Davis.

Ward, F. N.: Report of Twenty Eight Cesarean Sections Without a Death. *J. Am. Med. Assoc.* 94:490. By S. R. C. & C. P. 1.

The author presents her record and technique of 28 cesarean sections which were performed for various conditions with no mortality rate for the mothers nor for the full term infants in six other cases the child was not viable at the time of the operation which was done solely in the interest of the mother. The indications for the operation varied greatly and were due in a few instances to the faulty presentation of the fetus, but were more often due to pelvic deformities or obstruction in the

birth canal of the mother as by fibroids or cicatricial tissue in the cervix or in the vault of the vagina and in 5 instances to placenta previa in 7 cases the indication lay in the constitutional system of the mother renal deficiency being the cause 4 times cardiac failure once and pernicious vomiting twice In one instance a fracture of both femurs necessitated the operation Of the 28 cases operated upon 18 were primiparae 10 were multiparae the oldest was 45 years of age and the youngest 16 years In 10 cases the operation was the method of choice but in 18 cases the patients were allowed to undergo the test of labor or the operation was performed as the result of a complication of labor

ETHER is the only anæsthetic used and is given by the drop method being preceded by a hypodermic of morphine $\frac{1}{4}$ and atropine $\frac{1}{125}$. The abdomen is painted with 5 per cent iodine and the incision is made to the right of the median line three fourths of its length being above and one fourth below the umbilicus. The uterus is incised in the median line as high in the fundus as possible and the placenta if encountered is pushed aside or divided the membranes are ruptured the presenting part grasped and the child delivered. After the removal of the placenta the uterus is brought outside the abdomen surrounded by gauze pads wrung out in warm saline solution and the incision is closed by interrupted sutures of linen thread introduced about one half inch apart with a curved Martin needle sufficiently large to penetrate with one stitch the contracting uterine wall down to the decidua. A second row of Lambert sutures of fine linen thread unites the peritoneum above. The abdominal wall is closed with unusual care no packing is used in the uterus or cervix and no ergot is found necessary to insure uterine contractions.

In conclusion Ward points out the necessity of careful study and recognition of suspected and abnormal obstetrical lesions before labor begins.

If the patient is of the borderline type and is to be permitted to undergo the test of labor she should be kept surgically clean with no experimental manipulations and with as few vaginal examinations as possible conducted under the most rigid asepsis. The operation should be performed before the patient's resistance is lowered.

Attention is called to the value of linen sutures which remain in the uterus as in stomach and intestinal suturing ensuring a uterine scar of uniform integrity.

L. K. P. FARRAR

Rachmanow A N Thirty Cases of Classical
Caesarean Section (3 I all klassischer
Sect marta) Z i bl f G) dt 914

Among 5,000 deliveries there were 3 cesarean sections, 3 of them performed after labor had begun. Only five cases were not examined internally in 5 cases the membranes were not ruptured.

11 were primiparae 19 multiparae. The results were that 18 of the mothers and their children lived and 26 of these cases were entirely without complications. Two mothers who had been repeatedly examined outside the hospital by unclean hands died of sepsis. In 18 cases tubal sterilization was performed also. Cases that are suspected of infection should be excluded from caesarean section or any of its modifications. Pure cases are those in which the membranes are not yet ruptured and caesarean section may be performed in these even if the temperature is 38 if the pulse is slow. Early admission to the hospital is desirable so that adequate preparation may be made. GRAEFINGER

Thompson W L : The High Incision in Cesarean
Section B II Johns H phs s Hosp 19 4 xx
 336 By S rg Gyn c & Obst

In caesarean section the author favors the high incision in the median line, above the umbilicus after the well known method of Davis claiming for the procedure that (1) the incision above the umbilicus receives better reinforcement from the recti muscles than in the lower abdominal wall and that its location precludes all possibility of adhesion between it and the contracted uterus (2) the incision through the thick muscular fundus rather than through the attenuated lower uterine segment minimizes the danger of rupture of the uterus in subsequent labors

Thompson advises leaving the uterus *in situ* as less productive of shock and packing off the intestine with Mickulicz's pads wrung out in hot saline solution to prevent the handling and also the contamination of the intestine by possibly infected liquor amni. He closes the wound in the uterus with two layers of interrupted sutures of chromic catgut inserted one centimeter from the edge of the wound and passed down to but not through the decidua and tied more tightly than sutures in ordinary wounds to allow for the contraction of the uterine muscle. The peritoneum is then drawn over the wound by a running suture of catgut and the abdominal incision closed in the usual way except that the skin incision is united by a subcuticular stitch of silver wire to be removed on the seventh to the ninth day thus avoiding the unsightly needle holes in the abdominal wall.

L K P FARRAR

**Seititzky Vaginal Caesarean Section the Question
of Later Deliveries (Der spinale Kaiserschnitt
ur Frage be die achfolgenden G burten)**
F i ch l i P of P o b e d i k y 1914 p 9
By Zentralbl f d ges Gynäk u Geburtsh u d Grenzgeb

Sselutsky reports 17 cases of vaginal cesarean section, 11 of them in eclampsia without a death. Vaginal cesarean section is indicated in eclampsia, premature separation of the placenta, placenta previa, pernicious vomiting, diseases of the kidneys and heart, and delayed delivery, and it may also be indicated in local diseases such as rigidity of the os.

of the pregnancy is generally not interrupted the thromboses disappear without any harmful consequences. In some cases probably as the result of the penetration of bacteria into the circulation during labor there is secondary infection of the thromboses. This prevents local recovery and the woman is subjected to the danger of septic emboli and a spreading of the infection. The treatment consists in the use of hot compresses. **MISTRO**

Landau L. Myoma and Pregnancy (Myom und Schwangerschaft) Berl M W N h schr 9 4 h 445
By Surg Gynec & Obst

Landau divides the cases of myoma complicated by pregnancy into four classes: (1) The myoma which gives no symptoms and is often only found accidentally on examination during pregnancy or labor. No treatment is necessary. This is the most numerous class. (2) The myoma which causes symptoms that make it necessary to operate. This type can generally be enucleated without interfering with the pregnancy. Landau has performed this operation and abortion was brought about in only one case. Several of the women have borne other children since. (3) The myoma which causes no general symptoms but its size and location make natural delivery impossible or extremely dangerous for mother and child. In these cases it is best to wait for the end of pregnancy and perform cesarean section. (4) In the fourth class the objective and subjective symptoms are such that the patient's life is threatened. Many advise abortion in such cases but this subjects the patient to the danger of a later pregnancy. In such cases the author performs total or supravaginal hysterectomy of the pregnant uterus. He has performed the operation successfully 31 times.

The author points out that so many cases of pregnancy show a normal course when complicated by myoma that it is not necessary for a woman to refrain from marriage or child bearing because she has a myoma. **V. Goss**

Wanner Acute Appendicitis and Pregnancy (Akute Appendicitis und Gynälogie) M W N h 9 4 1 39
By Ze trafbl f d ges Gynak. C. Burth d Gren 1, b

The author points out the rarity of this disease during pregnancy and its dangers. On account of the displacement of the cecum upward and toward during pregnancy there is greater danger of general peritonitis and of infection of the uterine contents and sepsis through the blood and lymph tracts and also through the mucous membrane of the tube. Five cases occurring in the first half of pregnancy were operated upon by the author with relatively short time. In one case there was abortion on the day after the operation. In the others the pregnancy was not interfered with. The incision for appendectomy during pregnancy should be made somewhat further upward and outward than usual and the middle of the incision should lie over the

point of painful resistance. In a case which had previously been operated on in the seventh month of pregnancy the author found the cecum and appendix pushed high up under the liver. Drainage should be avoided as far as possible if there are no abscess cavities denuded of peritoneum.

KELLER

Turbeville J S Hookworm Disease and Pregnancy—the Dangers South M J 1914 11 862
By Surg Gynec & Obst

The author states that Stiles, De See and Williams claim that abortion is likely to occur in hookworm disease and quote a percentage of from 24 to 26.

The author's experience has taught him not to fear abortion in hookworm patients. However he finds the predisposition to eclampsia is increased.

Relatively the edemata of pregnant hookworm patients are more common and are quickly relieved by the eradication of the parasites. Williams puts the proportion of eclampsia in general obstetrical practice as 1 to 500. Turbeville has had 7 cases to every 300 for a period of twelve years.

The offspring have as a rule always been healthy and showed good development except in extreme cases of hookworm disease. **ELOE & CARY**

LABOR AND ITS COMPLICATIONS

Jarrett E Cervical and Other Tears N W J M W N 9 4 1 720
By Surg Gynec & Obst

In patients who are likely to have tears two three or four sutures are placed in the perineum before the head is born. Two fingers of the left hand are inserted into the vagina and three chromogut or silkworm sutures are inserted at equal distances beginning at a variable distance from the anus. They are placed according to the thinning of the perineum from one half to one inch to the side of the median line of the perineal body. They are passed into the vagina and out again on the other side. They are not tied but clamped and left hanging.

This maneuver saves time and is a great aid to healing. The stitches seem to prevent or limit tears. The tears that occurred have all been median in tears none of the lateral jagged vaginal tears have been observed. After delivery the stitches are tied and the parts immediately approximated.

The author advocates the repairing of all cervical tears at the time of labor. **EDWARD L. CORNELL**

D'North L. L. Uterin Inertia N W J M W N 9 4 1 653
By Surg Gynec & Obst

D'North first considers the physiological influences that initiate uterine contractions. He cites some of the old theories and mentions researches made during the last two or three years by German

physiologists which tend to show that the onset of labor and its regulation depends upon unknown substances circulating in the mother's blood. Histological experiments tend to show that metabolic processes within the fetal body are capable of developing substances which produce a sort of systemic intoxication in the mother's blood that seems to be peculiar in producing uterine contractions. Von der Heide is certain that fetal serum is capable of inducing labor and that the action is one of anaphylaxis. The pituitary gland seems also to play an important part in the production of labor and increases in size and color during pregnancy. Its action is very slight on the early pregnant uterus but its intensity increases with the nearness of the term.

Inertia uteri may be primary or secondary. In the former uterine action may be feeble from the beginning due to a defect in the mechanism. In reservation this condition is seen in women of the poorer classes who have borne a large family rapidly. In the latter condition the uterine action may begin favorably but grow feeble after a time. Most of these cases are due to fatigue from labor.

The danger that arises from this form are more serious when inertia occurs in the second stage of labor although inertia in the first stage is without some danger. An increase in general morbidity is associated in late childbed due to prolonged uterine inertia.

Treatment of uterine inertia exceedingly broad and embraces the widest knowledge of the physiology and phenomena of labor. Interference with labor is not indicated unless definite signs of danger to the mother or child are apparent. If inertia is primary the cause should be sought. If mechanical as in an obstructed uterus from an excess of liquor amni or from twins labor may be started by turning away the fluids malposition of the fetus should be corrected and a penulous abdomen supported by well fitting binder.

If engagement of the fetal head leads to disproportion causes inertia the author advocates caesarean section. If due to a resistant cervix he advocates the use of the elastic bag. If the pelvic floor resists progress he advises the use of forceps.

Pituitary extract should have no place in normal labor. Delforth believes it should be used tentatively to bring the presenting part within the range of a simple forceps operation. Excellent.

Goldwasser J. Injuries to the Fetus during Delivery. Especially in Forceps Delivery and Their Medical Significance. (Uter. & Gyn. Abstr.) New York: C. B. Thomas, 1914. 100 pp. 10c.

In connection with two cases at the Michigan Gynecological Clinic the author discusses injuries to the eye during delivery. In the first case men-

tioned the eye was found by the nurse in the placenta after the physician had left. In passing medicolegal judgment it must be remembered that eye injuries of the serious sort have been observed in spontaneous deliveries. Incorrect application of forceps or a skillful hand may be held to prove and it must be remembered also that even with correct indication and technique injuries to the eye are sometimes unavoidable. Ketter.

Polak J. D. Twilight Sleep. Lo. & J. 1914. 11. 455. By S. R. C. nec. & O. n.

As statistics show that it is possible to produce analgesia in 100 per cent of the cases in which twilight sleep is induced Polak believes a woman is entitled to the relief of pain during labor if it is possible without undue risk to mother or child. In using scopolamine and morphine the cervix dilates more easily and rapidly as there is no pain from its stretch. Hence the first stage of labor is shortened. The second stage may be prolonged and the patient should be watched closely. The danger from scopolamine and morphine is usually slight but an overdose of morphine by using the minimum amount required to produce sleep by the individualization of the patient and the free use of water throughout the sleep the danger can be very largely prevented.

The child is usually slightly narcotized and does not cry for two or three minutes after birth but there is no cyanosis unless too much morphine has been used or the second stage has been unduly prolonged.

The sleep is particularly indicated in the nervous type of physically unfit as it allows full dilatation of the cervix without much shock or fatigue. Dry labor and borderline pelvic contraction are indications for the use of twilight sleep.

The patient should be definitely in labor when the first injection is given. She should be watched carefully the condition of pupils, the pulse, the respiration and the character of the uterine contraction being noted. Vaginal examination are avoided. The fetal heart rate is recorded every half hour. Arrhythmia or slowing of the heart is a bad sign.

Fifty-one cases were carried through successfully with entire amnesia and no fetal mortality.

D. H. Boro.

Heller J. A Study of One Hundred and Fifty Cases of Twilight Sleep. Med. Rec. 94. 1913. 79. By S. R. C. nec. & O. n.

The author's conclusion on the records of the Jewish Maternity Hospital. No case was excluded except for one of the following reasons: (1) A marked disproportion between the fetal head and the pelvis necessitating a major obstetric operation. (2) Placenta previa. (3) Absent or doubtful fetal heart sound. (4) The woman was far along in labor.

Of the 150 cases 113 were primiparae 37 multiparae. Delivery was spontaneous in 131 instances. Forceps were used 18 times. The remaining delivery was a breech extraction. Fifteen of the forceps operations were of the low variety. They were actually indicated in only 6 cases. In the other instances forceps were used for the convenience of the accoucheur.

The third stage was uneventful the average duration being 20 minutes. In no case was the placenta retained more than 30 minutes. No abnormal bleeding was observed.

The author is unable to state with certainty the effect of twilight sleep on the duration of labor. However he feels that the first stage is somewhat shortened while the second is positively prolonged.

The usually reported effects of the drugs on the mother were noted. Amnesia was not observed until after the third injection of scopolamine. Restlessness was rather frequently noted during the early part of the work. Added experience with the procedure has enabled the author to eliminate much of this in his more recent cases.

The fetal heart beat never went above 160 nor fell below 120. In only one case was there any great difficulty in resuscitating the child. Because of the mother's restlessness before delivery she received three injections of morphine narcotine meconate. The cry was delayed five minutes in 29 cases. All of the remaining children cried immediately and spontaneously. There were no stillbirths. Three of the children died a short time after birth. The death of two of these cannot be attributed to the narcotic. One was premature with a spina bifida and died three hours after birth. The other died of melena neonatorum on the third day. The cause of death in the third case was not definitely determined. If it be attributed to twilight sleep the infant mortality would be 0.6 per cent which is lower than ordinary.

The technique employed was the same as that used in the Freiburg Clinic. Morphine narcotine meconate was retained in only a few instances owing to the extreme restlessness of the mothers.

The greatest number of injections of scopolamine given to one patient was 10 the average was five. Pituitrin was used rather frequently.

The results are as follows. In 12 cases or 8.3 per cent amnesia and analgesia were obtained in 13 or 8.7 per cent analgesia without amnesia occurred. This result of analgesia without amnesia, the author claims is ideal as it allows the patient to use her abdominal muscles during the second stage. In 15 cases or 10 per cent failure resulted. Two cases of nephritis and two of chronic endocarditis are included in the series. A. C. Brock.

Knipe, W. H. W.: The Freiburg Method of Damschschlaf. *Am. J. Obst. & Gynec.* 914, 123, 884.
By Surg. Gynec. & Obst.

An extensive review is given of the use of scopolamine and morphine in obstetrics from its first use

by Steinbuechel until its modified use by Gauss. The technique as used at Freiburg is described and statistics of various writers who have followed more or less closely the methods of Gauss are quoted. He shows that the adverse reports were in every case from clinics where the method of Gauss was not followed. Gauss maintains that the unfavorable results were due to the lack of the control of the drug by memory tests and points to the large percentage of painlessness as an example of overdosing.

The method of Siegel which is an attempt to simplify the technique so that it can be more generally used is also given. Attention is called to the fact that the method of Siegel does not give nearly as good results as does the individualizing method of Gauss.

The author has tried all of the forms of opium which have been used in twilight sleep and states that the solution of morphine muriate gives the best results. It is important to use a stable solution of scopolamine. Most watery solutions decompose quickly forming a by-product apo atropine which is toxic and according to Gauss has produced most of the bad results quoted by Hocheisen and others. Kessel has reported that on adding a drop of a thin permanganate of potash solution to the solution of scopolamine if there is any of the apo atropine present it shows itself by the production of a brownish yellow color; this test is very delicate. Prof. Straub of Freiburg prevents the decomposition of the scopolamine by adding 10 per cent of hexatomic alcohol mannite to the solution.

Knipe has employed twilight sleep in 4 cases with the following results: 85 per cent of the babies cried lustily as soon as born without any stimulation. Oligopnea was observed in 7 per cent. All lived. In addition there were 3 cases in which the umbilical cord was tightly wound twice around the neck with one oligopnea, one apnea, and one still birth. In the mother complete amnesia was secured in 32 cases or 78 per cent. Partial amnesia in 4 cases 10 per cent. Analgesia without amnesia in 1 case 2 per cent. Failures in 4 cases 0 per cent.

C. H. Davis

Wichmann S. E.: The Use of Metreuryls in Obstetrics. A Preliminary Report on a Modification of the Champetier and Ribes Bags (Über die Anwendung der Metreuryls in der Geburtshilfe zugleich eine vorläufige Mitteilung über eine Modifikation des Champetierschen und Ribeschen Ballons). *D. oboecum Helianski*, 1914, 2, 263.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author criticizes the defects of the Champetier bag and describes in this connection a case in the obstetrical clinic at Helsingfors where he lost a mature child in a case of partial placenta previa through a complication due to the defects of the bag. As a result of this case he constructed a new metreuryl. The modification consists in the first place of replacing the base of the bag which is a

segment of a sphere about 3 cm. high by a flat base or if it is technically possible and corresponds to practical needs a slightly concave one. In the second place the transition from the shaft to the bag in the old Champetier bag has a periphery of about 10 cm. and a distance from the base of the bag of about 12 cm. that in the new bag has the same periphery but a distance from the base of the bag of only about 6 cm. This causes the present bag part with a lateral view of for example 1 to 2 fingers breadth, to be pushed upward not 15 cm. but only about 6 cm. In the third place the connection of the tube with the catheter is accomplished by copper wires but by a ring shaped clamp and it is fastened to the same ring to which the extension weights can be conveniently applied.

Djavanm

Zarate F.: Different Techniques for Hebeostomy (Les différentes techniques de l'hébéostomie). *Rev. med. d'Alg.* 4, 3, 1914, 191.

By Zentralbl. f. d. ges. Chir. 4, 1914, 191.

After discussing the different methods the author describes his method of hebeostomy which he has used successfully for 6 years and which is quite similar to Bumm's technique. His needle has a greater radius to the curvature and the holder is perpendicular to the axis of the needle so that adaptation to the bone is easier. The needle is introduced on the left side 1 cm. from the point of the pubis and directed obliquely downward. In the meantime the index and middle fingers of the left hand make prophylactic lateral movements in the vagina to protect the soft part. The exit of the needle at the outer edge of the labium majus is at the point of junction of the ascending anus of the ischium and the descending ramus of the pubis. Delivery generally takes place spontaneously within the next four generally after a injection of hyposphyn. During the first two days a catheter is kept in the bladder and a compressive bandage applied to the pelvis. The patient is able to get up after 18 to 20 days.

Holatz

PUERPERIUM AND ITS COMPLICATIONS

King J. B.: Past and Present Views upon the Treatment of Puerperal Septicæmia. *Brit. J. Surg.* 1914, 3.

In discussing the former treatment of puerperal infection the author mentions the use of phlegm. At the onset from 10 to 20 grains of salicylic acid were drawn. This was repeated once or twice a day. In some cases 60 to 80 grains were taken within 3 or 4 days. Iodine was also used. Calomel castor oil, Lysol, and iodoform were used in large doses. From one half to one ounce of calomel frequently was given within three or four days.

After 1850 as a result of the teaching of Holmes and Semmelweis crude efforts at prophylaxis were

introduced. Prophylaxis however met with little favor until Pasteur and others placed the germ theory on a firm foundation.

Following the demonstration of the streptococcus in the infected endometrium the curette was employed as a means of removing the infection. For a time routine curettage was a common practice. After Bumm demonstrated Nature's attempt to limit further invasion by an infiltration of round cells the use of the curette passed into disrepute. At the present time curettage is resorted to only in those cases which show evidence of the retention of clots or sequestræ. The blunt curette and when possible the finger have supplanted the sharp instrument of former times.

The author considers the use of intra-uterine sequestræ of antiseptics and irrigations of no value. Some physicians think they are distinctly harmful.

In cases of infection of the chronic type autogenous vaccine has in a number of the author's cases been of distinct benefit. In other cases vaccines have proved valueless.

Operative treatment has been followed by discouraging results except in thrombophlebitis. Ligation of the pelvic vein has been followed by good results in a number of cases reported.

In summarizing the author states that the greatest advances have been made along the line of prophylaxis. He believes that except in rare instances all cases are due to carelessness or ignorance. In this connection he calls attention to the midwife and concludes with the statement that the midwife is neither necessary nor useful and that her existence in this enlightened age is a crime.

A. C. Beck.

James J. F. Jr.: Clinical Suggestions Concerning Puerperal Septicæmia. *Ill. J. Med.* 1914, 809.

By Surg. Gen. C. O. W.

The author believes that since the puerperium began, but he modifies this statement with few exceptions. The elevation of temperature during the first 4 hours after birth in protracted delivery is a reliable sign of infection. A slight rise in temperature may occur at the time the breasts fill with milk in non-lactating women especially.

When infection of the genital tract is discovered it may either have been brought there from the outside or have been present in the form of a latent gonorrheal infection. The author thinks that the uterine vaginal flora may cause sepsis, the presence of many lacerations. This he terms autosepsis.

James emphasizes the fact that all local infections of the birth canal, the same clinical picture and treatment, the condition is not necessarily judged by uterine infection. He has very often found a local phlegmonous infection about the vulva. For this condition he uses vaginal douches and the iodine application through a speculum.

If the condition is found to be intra uterine as necrotic material having been retained digital curettage should be insisted upon and intra uterine irrigations should be infrequent

In cases where general sepsis develops the author believes in a most generous diet free catharsis and free kidney and skin activity Alcohol internally used seems most beneficial Vaccine therapy is favorably thought of and antistreptococcus serum may be useful
EUGENE CARY

Rouler J Treatment of Puerperal Eclampsia by Morphine and Its Adjuvants (No. 100) *Remarques uniques sur le traitement de l'éclampsie puerpérale par la morphine et ses adjuvants* Bull Soc d'obst et gynec Par 1914 in 47
By Zentralbl f d ges Gynak u Geburtsh d Grenzgeb

The treatment of eclampsia during the puerperium must be directed chiefly against the attacks Milk diet is much to be preferred to infusion of water and should be followed by salt free vegetarian diet In morphine treatment large doses should be given 14 cg or even more can be given in 16 hours

Immediately on the patient's admission the author gives a cg and after half an hour another cg after another half hour 0.25 cg then if the attacks stop and do not return for two hours he injects another 0.5 cg if the attacks do not stop then 1 cg is given every hour also if the attacks stop for a while and then begin again 1 cg is given every hour Besides stopping the attacks the morphine has a salutary effect on the kidney secretion preventing overfilling of the kidneys with blood and decreasing the albumin excretion In order to prevent accumulation of toxins in the gastro-intestinal canal it is well to give stomach irrigations of 5 to 6 liters of sterile water which must be repeated once or twice within a few hours later only when bilious vomiting occurs Moreover the intestine should be irrigated with 6 liters of sterile water repeated every 6 to 8 hours This is continued for 24 hours till all fetid masses have been removed from the intestine To support kidney function 3 to 4 gm of helminthol per day is given Prolonged oxygen inhalation is advised to guard against edema of the lungs Because of the prognostic importance of edema of the brain and meninges lumbar puncture should be performed if there is blood in the fluid it is a very bad sign

In post eclamptic amnesia and mania he prefers morphine to any other sedative Moreover he believes that post eclamptic mania is less frequently observed under morphine treatment than was formerly the case after bleeding
FRANKENSTEIN

Spire A A Case of Spontaneous Inversion of the Puerperal Uterus (U cas d'inversion spontanée du puerpère) *Revue mensuelle de gynécologie et d'obstétrique* 1914 p 94
By Zentralbl f d ges Gynak u Geburtsh d Grenzgeb

The patient a 20 year old primipara had very poor pains while being with uterine effect made d

livery by forceps necessary Severe coughing during the third stage before the placenta was separated caused the uterus to become completely inverted The placenta was separated and the patient fainted Remission was effected without anesthesia The patient soon recovered Scale was given and there was a prophylactic administration of antistreptococcus serum The puerperium was slightly febrile
KNOOP

Seifert, M J Latent Atypical Malaria Complicating the Puerperium *J Am M Ass*, 1914 Jan, 2215
By S g Gynec & Obst

The author reports a case of malaria complicating pregnancy The patient aged 25 during girlhood had anemia accompanied by fainting spells and dropsy

On the sixth day after the birth of her first child she had chills and fever Delivery had been attended with perineal and cervical lacerations The illness lasted three weeks but recovery was gradual on tonic and supportive treatment Good health continued until the birth of the second child five years later

Birth was again attended with perineal and cervical lacerations and moderate hemorrhage, and six days later the left breast became indurated and painful accompanied by chill and fever to 102.6° pulse 104 The following day the pulse increased to 140 and the temperature arose to 104.2 subsiding to normal in the evening

There were no evidences of pelvic infection which excluded puerperal septicæmia and the symptoms were attributed to the breast condition The urine showed specific gravity 1.032 albumin 4 per cent (volumetric) sugar a trace hyaline and granular casts On the third day the pulse was 130, temperature 104 the fourth day pulse 130, temperature 105.2° fifth day pulse 140 temperature 106.8 The pulse continued above 100 and the temperature above 101 no periodicity Blood examination disclosed numerous malarial parasites of the tertian variety Antimalarial treatment was effective in 24 hours Recovery was gradual On the subsidence of all symptoms lochia discharge reappeared which on microscopic examination showed gonococci

The author makes a plea for exhaustive methods of diagnosis as a routine practice taking nothing for granted He urges that all unusual cases be examined exhaustively clinical data and laboratory findings being carefully studied

H G HANE

Battisti C Mental Diseases in Relation to the Puerperium (Le malattie mentali rapportate al puerperio) *Ni ri d psichiat* 9 3 2 378
By Zentralbl f d ges Gynak u Geburtsh d Grenzgeb

The conception puerperal psychosis can be admitted today only to the extent that the puerperium is the starting point of a series of ordinary well known psychic diseases The puerperium is

a particularly favorable predisposing factor in psychic disturbances for as far as reuropsychopathic heredity there are toxic infectious processes exhaustion and other factors that probably affect the psyche in the term psychopaths there should be satisfied the more accurate ones of amnesia maniacal depression phrenosis, and hereditary psychosis which are the mental condition most often peculiar in the puerperium and for which the puerperium is only the predisposing cause.

Santi L. The Value of Fixation Abscess in the Treatment of Puerperal Infection (L'Acc. di Ost. e Ginec. di Padova) 1914 1: 151
Czech 10 4 1 102

By Zentralbl. f. Gyn. (Nik.) 1: 151 d. Grenzgeb.

The author reports 12 additional cases of puerperal sepsis treated by the formation of a fixation abscess all but two of which were cured. He recommends not only one injection as in previous works but repeated injections (tuperculin) under the skin of the abdomen he mentions the injections to 1 cc. but gives a maximum of 5 cc. He especially recommends that this remedy be used early. The course of the disease generally runs parallel with the reaction against the turpentine injection. In the severe cases the first injection is followed by only a moderate reaction - the disease is only slightly influenced - but in many cases so that early death is prevented a full course of the disease prolonged. On the second injection the reaction is greater and is a more clearly defined improvement on the third injection the reaction is better and in many cases the infection is no contraindication to the treatment. In no case was the disease made worse by the treatment.

MISCELLANEOUS

Balls L. H. and Bartlett F. K. Placental Pro-
tel. In Klein Reic. 1: 141 J. 1914 1: 151
1914 1: 151

The authors review the results of their experiments along this line during the past few years after describing in detail the position of the placenta in their experiments the preparation of the material the technique followed and the results of the following conclusions.

Protein prepared from the placenta of this year while placenta when introduced by the vaginal or intracutaneous or subcutaneous method cause in most cases a local reaction in pregnant and non pregnant individuals. The local reaction in the reaction however is neither great nor constant enough to be of value in the diagnosis of pregnancy. This speaks against the theory that the pregnant woman is specifically sensitized to placental proteins. The lack of a general anaphylactic reaction also opposes the view that the pregnant woman is in fact a sensitized woman.

The method of preparation of the proteins is open to the objection that the manipulation may have so changed the substrate that the specific ferment can no longer attack it and break it down. While this may be true other proteins capable of sensitizing and producing anaphylactic shock can be handled in a similar manner and retain their specificity as shown by various workers.

Idberg H. Röntgen Ray and Pregnancy (Klin. Med. 1914 1: 151)
1914 1: 151

Experiments have shown that exposure of rabbits to X-rays produces temporary sterility and that if the animals are pregnant abortion is apt to be produced. There have been no reports on similar experiments in human beings. Idberg reports the case of a woman who was being given X-ray treatment for pyosoma of the uterus. She became pregnant about the middle of June and X-ray treatment was continued until the third of July. During this time 35 X-ray treatments were given. Pregnancy and labor were normal and the child now in its seventh week is normal and in good health.

Parl U. Internal Secretory Function of the Ovary During Pregnancy (J. Am. Med. Ass. 1914 1: 151)
1914 1: 151

By Zentralbl. f. Gyn. (Nik.) Geburt u. d. Grenzgeb.

The author performed the following series of operations upon many pregnant rabbits on the sixteenth to twentieth day of pregnancy. The ovaries of all the corpora lutea of both ovaries unilateral oophorectomy unilateral oophorectomy followed by removal of the other ovary during a later pregnancy. The ligation of an ovary and removal of the other. In a later pregnancy ligation and resection of both tubes. Superficial thermocautery of both ovaries. Extensive displacement of an ovary (the whole ovary was removed) and removal of the other. In a later pregnancy.

From his experiments Parl comes to the following conclusions. In rabbits up to about the twentieth day of pregnancy the ovaries necessary for the continuance of the pregnancy this function is not due to the corpus luteum, for it is not yet secreted about the time of pregnancy. The tissue of the ovary also has an important functional significance in the physiology of pregnancy probably it is not the follicle apparatus but the interstitial ovarian gland that is the source of this function.

Sippel O. Ovarian (Osteomalacia) (Ztsch. f. Gyn. 1914 1: 151)
1914 1: 151

By Zentralbl. f. Gyn. (Nik.) Geburt u. d. Grenzgeb.

A woman of 39 had always been well prior to her twenty-sixth year when a tumor suddenly ap-

peared on her lower jaw which on account of its rapid growth made complete excision necessary. It was found to be a sarcoma. Soon afterwards small painful tumors appeared in both hips but were concealed on account of fear of operation. Two years later the patient married and soon became pregnant and during the pregnancy a severe osteomalacia developed. The child was carried to full term was delivered by forceps was strong and has developed well. After the delivery the symptoms did not subside but as in the last months of pregnancy there were repeated spontaneous fractures of bones and gradually large bone tumors developed in the upper part of both femurs and the right ilium. For five years the pain which was almost unendurable stopped and the condition became stationary. The patient again became pregnant and in the fourth month came to the hospital for artificial abortion. The severe osteomalacic changes shown by projection pictures are described in detail.

The peculiarity of the case lies in the large cystic bone tumors in the region of the pelvis and both femurs which became as large as a child's head. The masses which when examined were as hard as bone must formerly have been soft as was indicated by their flattened posterior surfaces. Both hip and knee joints became almost completely ankylosed. The author thinks the tumors were benign cysts on account of their slow development although sarcoma is more usual in connection with osteomalacia and the history is very suspicious. Castration by roentgen irradiation is being considered.

REHMANN

Walcher Jr. Effect of Contracted Pelvis on the Form of the Skull During Pregnancy (*Einfluss der Schwangerschaftskonfiguration des Schädels auf die Form des Kopfes*). Z. f. Gyn. 914, 225, 226, 227.

By Zentralblatt für Gyn. u. Geburtsh. d. Grenzgeb.

Just as the shape of the head of the newborn child may be affected by its position so may the configuration of the skull of the fetus be powerfully influenced during pregnancy. In primiparae with contracted pelvis Walcher has observed comparatively frequently that the head entered the pelvis during pregnancy developed further there and adapted its shape to that of the pelvis so that after a short delivery the form of the head conformed to a certain degree to the form of the pelvis.

FETZER

Torbert J. R. The Prenatal Care of Obstetrics. C. d. M. J. 941, 1885.

By S. J. Gynec. & Obst.

The question of the hygiene of pregnancy and subsequent management of the labor and puerperium as carried on by the Pregnancy Clinic of the Boston Lying-in Hospital occupies the main part of the author's paper. He has very clearly described the workings of this clinic from its birth in 1891 to the present time showing how by careful

and thorough work they have been able to build up a clinic that cares for 2,000 women, in their homes every year.

The work has been largely carried on by the students of Harvard Medical School in cooperation with the Instructive District Nursing Association and later the Women's Municipal League. Naturally all the actual work connected with this department is under the direct supervision of the attending staff of the Boston Lying-in Hospital.

Patients from the out-patient department come directly to the pregnancy clinic where a very careful history is taken special attention being given to previous obstetrical history. A thorough general examination is made and accurate pelvic measurements are taken. The urine is examined and the blood pressure recorded.

Having the foregoing data properly recorded the patient is given directions as to the hygiene of pregnancy with directions to return to the clinic in one month or sooner if any untoward symptoms appear. The patient's name is then given to a nurse who makes any follow-up visits that may be necessary to the proper supervision of the case.

All patients are urged to come to the clinic as soon as they suspect pregnancy but it is rare to have them report earlier than the fifth to the sixth months.

Should the patient's urine show albumin accompanied by a high blood pressure and the symptoms be acute she is sent into the hospital for treatment. If the symptoms are mild she is instructed as to what to do and told to report back to the clinic in three, five or seven days. If she does not return at the stated time a nurse is detailed to look up the case and report her findings to the physician in charge. Usually these patients report back promptly and take an intense interest in the outcome of their cases.

Careful supervision of the entire pregnancy in such manner enables one to practice the art of obstetrics according to scientific principles. From the student's standpoint the training is ideal for it enables him to acquire superior knowledge in the systematic handling of his maternity cases.

The cost of such a system exclusive of the actual confinement and the services of the physician during pregnancy has averaged for 2,000 cases \$1.16 per patient.

In conclusion the author emphasizes the need of such an institution in every community and its inestimable value to every medical man who wishes to practice honest obstetrics.

ILLA VEX B. MATTHEWS

Gordon A. An Unusual Form of Birth Palsy. J. Am. M. A. 1941, 28.

By S. J. Gynec. & Obst.

The paralysis occurred in the flexor carpi ulnaris and flexor carpi radialis muscles. The case was a breech presentation and forceps were applied in the mesopetal position for the final delivery of the

GENITO-URINARY SURGERY

KIDNEY AND URETER

Baldwin J F Adrenal Precocity Precocious Development of the External Genitals Due to Hypernephroma of the Adrenal Cortex *J Am U A* 1914 LXIII 286

By Surg Gynec & Ob t

The author reports a case in a child of precocious appearance of hair on the face and pubes and external genitals in connection with a hypernephroma of one adrenal body

In an exhaustive article on this subject with the report of one case Jump Beates, and Babcock have collected from the literature records of seven teen cases, their own case making the eighteenth Of the eighteen cases reported all patients died before they were 16 years old Some were operated on and died shortly after In others the growth was inoperable when the patient came under obser vation In all the cases the conditions present were verified by a more or less complete necropsy

One case a boy aged 5 years and 10 months appeared in height and weight about normal for his years The facial expression however seemed to be that of a man of 35 or 4 He had been shaving for some time The genital organs were appar ently those of an adult except that the testicles were small and not completely descended the voice was that of an adult but the mentality was that of a mere child There was a large tumor in the abdomen It was extensively adherent and somewhat nodular Considering the extensive condition of the tumor and the poor condition of the child operation was not advised the child died at the age of 6 years

At autopsy the tum was found lying between the layers of the mesentery of the descending colon It weighed about 15 pounds with num ous small nodules protruding The kidneys showed a chronic diffuse parenchymatous nephritis The liver was full of met static nodules THEO DROGOWITZ

Spitzer W M Continuous Painless Ren Hemorrhage and Its Treatment *J Am U A* 1914 LXIII 94 LXIII

By Surg Gynec & Obst

After a detailed discussion of the etiology pathology and treatment of renal hematuria without pain Spitzer concludes

The changes found in the kidney of essential hematuria are identical with those found in passive congestion and are therefore caused by passive congestion

The bleeding is due to passive congestion the kidney being an organ so constructed that it must of necessity bleed in the presence of passive congestion

3 It is erroneous to ascribe the bleeding to nephritis as there are no clinical symptoms or urinary findings indicative of nephritis nor can the latter be unilateral Still it is admitted that if the bleeding continues the pathologic changes in the kidney will be the same as in chronic interstitial nephritis

4 The passive congestion occurring in one kidney only is due to some interference with the outflow of the blood which comes from a twisting of the kidney on a short pedicle

5 Operative interference is warranted only when it becomes necessary to save the patient's life because of an increasing secondary anemia

6 Bisection of the kidney for the cure of this condition is contra indicated and likewise dangerous

IRVING S KOLL

Thompson G S An Operation for Movable Kidney *B t U J* 1914 LXIII 1096

By Surg Gynec & Obst

In this operation the essential desiderata are (1) a guarantee against recurrence of the undue mobility and (2) an assurance that the fixation will be satisfactory by restoring and maintaining the normal position of the organ

The principle of this operation is the insertion of the kidney into and its suspension by a sling and the fixation of the latter to the posterior abdominal wall

The sling consists of a net made from chromicized catgut or preferably floss silk the material at present varying according to the predilection of the surgeon as time alone can show which is to be preferred These slings are made in various sizes, so that there is no difficulty in adapting one to the requirements of the particular case A gap is left at the hilum 2 in long by 1 in broad so that the border of the net here falls well short of the vessels and duct and thus no pressure can be exercised on these important structures The convex border is left open to facilitate the insertion of the kidney into the sling and at the ends of this opening two free ligatures are left open for the purpose of lacing up the gap and then to sling the net to the abdominal wall The complete sling is thus reinforced with a permanent gap at the hilum and a temporary slit along the outer border the size of the mesh being about 0.5 cm

The kidney having been exposed in the usual way is inserted through the gap and by the help of the slit into the sling it is then laced in but loosely and when this is completed the ligatures are knotted and thus fixed the lower ligature ending above opposite the costal groove on the kidney The lacing should be rather loose so that the sling fits the

kidney somewhat loosely in order to allow for the expansion of the organ which is known to occur. It must not be loose enough, however, to permit the net to rotate or impinge by its free inner border on the structures of the hilum, thereby compressing them, and in order to obviate this it is well to insert one or two suture sutures so as to include the net and kidney and maintain the proper relative positions of both. The kidney having been invested the next step is to fix it in position by the free ligatures along the outer border. It is placed external to the normal position of the kidney over the twelfth or if necessary the eleventh rib, the other through the muscles near the lower end of the vascus and the two ends tied loosely and the skin loosely again in order that the kidney may be free to move with respiration and lie itself spontaneously to the exact position. If the patient has been placed in bed with the foot blocked up, the remaining steps of the operation are as usual.

When the author first developed the above method in 1900 he used for the posterior base of the sling a reniform plate fifteen sheets of gauze riddled with punch holes, the remainder of the sling being as above and the setting attached to the border of the plate. When placed in the body this plate soon becomes fixed to the neighboring parts by infiltration, but Thompson thinks the elimination of the plate an improvement in technique and has not mentioned or used it lately.

The first patient operated on in 1900 is still quite well and free from all her previous troublesome symptoms while the organ still remains quite fixed. The wound healed by primary union and the patient left the hospital at the end of three weeks.

Thompson believes that this operation is an improvement on any other method. It is sure, quick, rational, simple, as well as satisfactory from the patient's point of view and he believes that its merits should cause it to supplant the other faulty and bad procedures which are in vogue at present.

Arerschner H. I. and Moody A. M. Malignant Papillary Cystadenoma of the Kidney with Metastases. *Ann. Surg.* 41: 66. 1905.

This article is based upon the report of a case occurring in a boy aged sixteen, the report including both the clinical findings and the results of the autopsy. At the age of nine the boy had typhoid during which he passed blood in the urine. The attack of hematuria at the time of his coming under observation had been present for one and a half years. A large kidney tumor was present. The X-ray showed the presence of a shadow producing body at the upper pole of the kidney six months after coming under observation the patient died.

The kidney was removed at autopsy. The upper pole contained a large hard calcified mass the size of a fist. The retroperitoneal glands were involved.

The bones of the vertebrae were eroded due to the presence of the large tumor mass.

His logical examination demonstrated that the tumor was a typical papillary cystadenoma. The metastases showed the same histological structure as the primary tumor as well as large deposits of lime salts.

The authors were able to collect ten similar cases from the literature. In none of which was the tendency to calcium deposits present. One case was aged 27, all the others were over 40. Hematuria was present in all the cases. Three of the ten cases reported were discovered at autopsy.

Barnett L. J. Polycystic Kidney. *Surg. Gyn. & Obst.* 94: 151. 1902.

Barnett refers to a former paper on the subject in which he endeavored to show that the available statistics were insufficient especially in covering the question of unilateral polycystic kidney.

His article covers the statistics of the last decade from a number of diagnostic and prognostic standpoint. Barnett considers an absolute differential diagnosis between unilateral and bilateral polycystic kidney an impossible because of the astonishing small amount of kidney substance that is required to sustain life so unilateral is designated when the surgeon by palpation functional tests etc. has proved it so as owing to his best judgment.

The whole number of cases reported and considered authentic was 53, bilateral 150, unilateral 103 of this number 90 unilateral cases are still living, 103 had operative recurrences and 34 died.

The first historical nomenclature was polycystic kidney, secondly congenital cystic kidney.

Hereditary was first in four cases associated cystic disease was reported but four times. It occurred five or six times in the female to three in the male. The youngest case was five years of age the oldest 63 years. The disease occurred most frequently at 41.5 years. There were post-operative recoveries of unilateral cases 110 of 113 total. Twenty-five years was the longest period of life for the unilateral cases and 15 years for the bilateral. Nine unilateral cases in which nephrectomy was done are still living with 8 years the longest time since the nephrectomy.

Anomalous was reported with a single left kidney whose upper third was polycystic and the third normal. The right ureter crossed over the upper half of the kidney pelvis. A stone occupied the lower pelvis. Nephrectomy was performed because the left kidney was thought to be the right kidney. Barnett considers that the polycystic portion of this kidney had been acquired and the cystic condition arose with normal tissue but would tend to disprove the claim that the disease always occurs bilaterally.

He draws the following conclusions:

The number of bilateral and unilateral polycystic kidneys is overwhelmingly greater than our present textbook statistics would indicate.

The question of infection has been one of recent years only consequently more time is necessary in order to show its importance.

The known etiological factors are so few that it must necessarily be concluded from the number of hypotheses given that there are several causes for polycystic kidney disease.

Nephrectomy in unilateral cases where the opposite kidney is proved competent especially when the tumefied kidney has produced a proved viscera is undoubtedly indicated.

The years elapsing since nephrectomy was done in a number of cases reported led to the belief that a unilateral polycystic kidney condition did exist.

Stewart G D and Barber W H Hydronephrosis 1 S g Phil 941 73

By S g Cynec & Obst

In the course of a study of the causation of renal infection paralysis of the ureter and dilatation of the kidney pelvis and calyces were so frequent as to suggest experimental observations on hydronephrosis.

Both of a dog's ureters were stripped and one was ligated at the ureterovesical junction. The animal lived five days in a drowsy indolent state. Autopsy showed both kidneys to be hydronephrotic, the ligated ureter kidney being twice the size of the non-ligated ureter kidney.

To determine if physiologic or adynamic ureteral obstruction gives rise to distended kidney, in nine dogs the ureter was removed from its bed and stripped completely and replaced in the abdominal cavity. In each case a cubical foreign body infected with autogenous colon bacilli and other organisms and of such shape as not to cause valvular urethral obstruction was placed in the bladder so that a permanent purulent cystitis was produced. In three cases the ureter became stenosed and the obstruction appeared to be organized blood within the ureter. In the remaining six cases the ureter remained patent. Hydronephrosis was produced in five cases, pyonephrosis in one parenchymatous degeneration in one and interstitial nephritis in one.

To study the physiological effect of such automatism upon the ureter a dog was etherized and the following observation made upon the ureteral movements: (1) Waves of ureteral peristalsis were noted at nine second intervals. (2) Waves of ureteral peristalsis were noted at sixteen second intervals with the middle ureter stripped. (3) Waves of ureteral peristalsis were noted at twenty five second intervals with the greater part of the ureter stripped. (4) The waves were not continuous. Librillary contractions were noted at sixty nine second intervals with the ureter completely stripped while at the same time peristaltic

waves were observed at seven second intervals in normal ureter.

In another dog both the ureters were exposed, one being left intact and the other stripped. Contracting the normal ureter under the finger contractions were elicited but on rolling the stripped ureter under the finger no contractions could be aroused.

From this observation it would appear that cause of urinary stasis in the above experiment was ureteral paralysis analogous to adynamic ileus and it is offered tentatively as a cause of hydronephrosis.

A clinical case occurring in the practice of one of the authors typified the hydronephrosis complex and emphasized the relationship existing between experimental and applied surgery. There was found at operation a large hydronephrotic kidney and a calculus wedged into the ureteropelvic isthmus.

Microscopic study showed that the kidney had undergone pressure atrophy from distention. Experimentally a similar case was produced in a dog by a calculus accidentally slipped into the ureter at the junction of the lower and middle third. These cases correspond with the specimens produced by paralyzing the ureters.

The conclusion is:

It is generally agreed that mechanical obstruction gives rise to urinary stasis and when continued sufficiently long to kidney distention.

This mechanical obstruction may be complete or incomplete, gradual or sudden. When the obstruction is sudden a complete transitory hydronephrosis with marked congestion follows. Atrophy intervenes and is proportionate to the duration of the obstruction.

Analysis of the ureter is accompanied by urinary stasis and kidney distention in 66 per cent of cases.

The pathological changes in hydronephrosis of functional origin correspond to the age of the adynamic ureter.

H G HAMER

Wittstein J C R Kidney Infection III
M J 94 XVI 590 By Surg Gynec & Obs

Wittstein discusses pyelitis thoroughly and reports a case of pyonephrosis after removal of infected adnexa in a young woman. Drainage of the pelvis was followed by recovery. This patient as well as another showed some bronzing of the skin which the author thinks is attributable to the disjunct adrenal which was somewhat involved in the inflammatory process. He further calls attention to the following facts as related to his own cases:

1. There are many cases of surgical kidney conditions without a single sign pointing to the kidney as the source of these symptoms.

There are many cases of obscure fever which have their origin in the kidney.

3. There are many cases of stone in the kidney or ureter or both which never have the symptoms known as renal colic; furthermore there are many

kidney somewhat loosely. In order to allow for the expansion of the organ which is known to occur. It must not be loose enough, however, to permit the net to rotate and impinge by its free inner border on the structures of the hilum thereby compressing them and in order to obviate this it is as well to insert one or two fixation sutures so as to include the net and kidney and maintain the proper relative positions of both. The kidney having been invested the next step is to fix it in position by the free ligatures along the outer border. One is passed external to the normal position of the kidney over the twelfth or if necessary the eleventh rib the other through the muscles near the lower end of the vena cava and the two ends tied loosely under the skin loosely again in order that the kidney may be free to move with respiration and adapt itself spontaneously to the exact position after the patient has been placed in bed with the foot blocked up. The remaining steps of the operation are as usual.

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H. A. Moore

Kretschmer H. L. and Moody A. M. Malignant Papillary Cystadenoma of the Kidney with Metastases. *J. Gynec. & Obst.* 9 4 1916
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This article is based upon the report of a case occurring in a boy aged seventeen. The report includes both the clinical findings and the results of the autopsy. At the age of ten the boy had typhoid during which he passed blood in the urine. The attack of hematuria at the time of his coming under observation, had been present for one and one-half years. A large kidney tumor was present. The X-ray showed the presence of a shadow-producing body at the upper pole of the kidney. Six months after coming under observation the patient died.

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The article covers the statistics of the United States from a numerical diagnostic and prognostic standpoint. Barnett considers an absolute differential diagnosis between unilateral and bilateral polycystic kidney as impossible because of the astounding small amount of kidney substance that is required to sustain life so unilateral is designated when the surgeon by palpation functional tests, etc. has proved it so according to his best judgment.

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4. The pathological changes in hydronephrosis of functional origin correspond to the age of the adynamic ureter. H G H WEA

Wettstein J C R. Kidney Infections III. W J 9 4 xv 390. B Surg Gynec & Obst.

Wettstein discusses pyelitis thoroughly and reports a case of pyonephrosis after removal of infected adnexa in a young woman. Drainage of the pelvis was followed by recovery. This patient, as well as another showed some bronzing of the skin which the author thinks is traceable to the adjacent adrenal which was somewhat involved in the inflammatory process. He further calls attention to the following facts as related to his own cases:

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2. There are many cases of obscure fever which have their origin in the kidney.

3. There are many cases of stasis in the kidney or ureter or both, which never have the symptoms known as renal colic furthermore there are many

conditions besides kidney or ureteral stone which can cause typical renal colic

4 Many cases of kidney disease especially tuberculous cause more bladder than kidney symptoms

5 The first sign of kidney disease especially tumor is a severe hematuria

In conclusion Wettstein refers to several infections which may secondarily involve the kidney (1) acute and chronic tonsillar infections (2) infection in and about the appendix and (3) gall bladder infections
J. S. FINE MD

Breisel F Renal Tuberculosis Its Diagnostic Difficulties and Surgical Problems A. J. K. M. J. 94: 175 By Surg. Gynec. & Obst.

The author reviews Israel's report of 1023 cases of tuberculosis of the kidney subjected to nephrectomy. Of deaths occurring within six months of operation 26 per cent were due to acute general military tuberculosis, 15 per cent to tuberculosis of respiratory organs and 21 per cent to renal lesions.

Of deaths occurring 6 to 30 months after operation 23 per cent were due to acute military tuberculosis, 43 per cent to tuberculosis of the respiratory organs and 40 per cent to renal lesion.

Breisel states that the classic symptoms of renal tuberculosis namely pain in the affected side, enlargement of the diseased kidney, hematuria, blood, and tubercle in the urine, fever, night sweats and emaciation rarely occur in the late hopeless cases.

The early symptom when a diagnosis is made are hematuria, albuminuria, pyuria, polyuria, pollakiuria and cystitis.

He emphasizes the value of urinalysis in the diagnosis of renal tuberculosis and he also recommends the biological test and tubercle bacilli in the urine and finally he recommends that the cases in which catheterization of the ureters show a normal second kidney should be treated by removing the diseased kidney.

In the group of cases in which some operation in the supposed normal kidney is questionable whether nephrectomy of the most diseased kidney should be done must be left to the individual case and according to the experience of the surgeon. Some of these kidneys are not diseased but merely irritated by toxins and will improve after the diseased kidney is removed. D. L. DEXAS.

Fans J. I. Phenolsulphonephthalein Renal Function Test A. J. M. J. 94: 4 By Surg. Gynec. & Obst.

In order to save the expense of buying a good standard colorimeter for measuring phenolphthalein test Fans uses the following technique. He obtains a specimen of the patient's urine before injecting the dye and uses this specimen to make a standard by taking as much of it as is obtained in the first hour output after injection and diluting up to 1000 ccm. He then alkalizes with 25 ccm of a 0.5 per

cent potassium hydroxide solution and adds 1 ccm of the contents of an ampoule of phenolphthalein. The first hour output is similarly alkalized and diluted up to 1000 ccm. In order to read its phenolphthalein per cent 100 ccm of the standard solution is diluted until its color matches that of the diluted first-hour specimen. Fans found an error of only 2 to 4 per cent by this method. FAN & HAN.

Tracy S. L. The Phenolsulphonephthalein Test from the Viewpoint of the Abdominal Surgeon. S. & G. 19: 4, 215-734 By Surg. Gynec. & Obst.

Tracy employed the test in about 300 cases, and the material for his paper is based on the observations of the first one hundred cases on which 120 tests were made. The total output represents the percentage excreted in two hours. He summarized his paper as follows:

1 The dye appeared in the urine in 5 to 42 minutes, the average being 10 minutes and 18 seconds.

2 The average output for the first hour was 34.27 per cent, for the second hour 20.83 per cent, and for the two hours 55.1 per cent.

3 In 30 per cent of the tests there was 4 per cent or less difference between the output in the first and the second hour.

4 In the series five cases with the lowest phenolphthalein output were subjected to major operations and had a normal convalescence.

5 Other cases with a much higher phenolphthalein output had a complicated convalescence with evidence of renal disturbance.

Case 56 with a phenolphthalein output of 53 per cent died of uremia less than two months.

Case 59 with a phenolphthalein output of 72 per cent died of uremia less than one month.

Case 60 with a phenolphthalein output of 55.5 per cent died in the hospital of renal failure 4 days after operation.

Case 68 with a phenolphthalein output of 87.5 per cent died in the hospital of uremia 4 days after operation.

1 Determining the functional activity of each kidney the test should be applied several times and the average taken. The result should then be checked up by other tests.

The following are the author's conclusions:

It does not seem possible to work out the minimum percentage of phenolphthalein output which will indicate the safe under-taking of surgical operation nor is it possible from the phenolphthalein test to determine what cases should or should not be subjected to operation. In the author's opinion it will never be possible to determine this point by any laboratory test as the functional activity of a kidney varies under different circumstances and at different times.

In determining whether or not a patient should be subjected to operation the history, clinical symptoms and physical examination are of much greater value than any renal functional test yet devised.

The phenolphthalein test used in conjunction with the

clinical symptoms, history and physical examination should put the surgeon on his guard and cause him to study the patient most carefully before undertaking an operation. The phthalein test should be used only as one of the many methods of investigation in ascertaining the condition of the patient.

Kahn M and Spielberg, W. Condition of Nutrition in Nephrectomized Patients. *J. I. U. S.* 1914, 15. By Surg. Gynec. & Obst.

The authors give a short history of experimental work done on the question of determining how much of the kidney substance can be removed and life remain.

They report the work of Fletcher, Penzoldt and Tuffier. Tuffier determined that the minimum be placed at 1.5 gm of kidney per kilo of body weight.

The authors have studied in detail the amount of nitrogen secreted and retained by two cases in which one kidney had been removed. Their conclusion is as follows:

From the examination of the analytical data it must be concluded that the excretion of the various catabolic fractions in the urine is quite normal. In the case of the second patient, while the output of the different fractions was small, it must not be taken as evidence of disturbed metabolism. The patient felt quite well and the small output is ascribed to a small intake. The experiments prove that the remaining kidney compensates adequately when the opposite kidney is removed.

A. C. STOLDS

Ingebrigtsen R. Kidney Transplantation (Homoplastik). *Uretra plastik*. *J. I. U. S.* 1914, 15. By Surg. Gynec. & Obst.

Ingebrigtsen states that some of his experiments on dogs and cats proved technically successful but still the transplanted kidney lost its vitality. He thinks that there is little hope of clinical transplantation of these organs on account of the individual differences between the donor and the recipient. Clinical transplantation will not be possible until means are discovered of estimating beforehand the serological and biological properties of each individual and thus selecting those that are adapted to each other.

A. Gos

Graghty J. T. The Treatment of Chronic Pyelitis. *J. Am. U. S.* 1914, 15. By Surg. Gynec. & Obst.

According to the author, while most cases of pyelitis are secondary to an infection of the kidney parenchyma or part of a pyelonephritis, still clinical experience and examination of pathological material prove that a pure pyelitis can occur. The majority of non-tuberculous kidney infections are undoubtedly due to some predisposing factor, a stone, tumor, stricture or other mechanical obstruction and the amelioration or cure of the infection

is dependent on the removal of the predisposing cause.

The differentiation of simple pyelitis from pyelitis with parenchymal involvement is usually impossible without the employment of functional estimation. In pyelonephritis the function will be decreased while in pure pyelitis no reduction in function will be observed. The presence or absence of albumin in the catheterized specimen has only occasionally been of diagnostic value in the author's hands. The organism causing the affection has probably very little influence on the prognosis.

After determining accurately that the case is one of simple pyelitis, a renal lavage is instituted. Of the many solutions employed, the author has come to depend largely on silver nitrate and liquor for maldehyde, vaccines and hexamethylenamine at the kidney level have proved of questionable value.

The types of cases are divided into the following groups:

1. Those in which the catheterized specimen shows a fairly active infection with a normal function and in which collargol shows very few changes in pelvic outline. The author begins with injections of 5 to 10 cc. of a 0.5 per cent silver nitrate solution, the tip of the catheter being rather low down in the ureter as there is usually a concomitant ureteritis. The strength of the injection is gradually increased until a 5 per cent solution is reached, the occurrence of a fairly good reaction being deemed essential for elimination of infection in the majority of cases. In this class of cases the results in the hands of the author have been very favorable.

2. In long-standing cases in which marked changes have taken place in the pelvic wall as shown by pyelography and in which very few leucocytes and only an occasional bacterium are found in the catheterized specimens, the prognosis is unfavorable. The infection in these cases is of low grade and usually quite deep in the pelvic wall, so that eradication is difficult and if after treatment the infection apparently disappears it usually recurs. One should be guarded in giving a good prognosis in this type of cases.

3. In infections of the kidney pelvis associated with a certain amount of pelvic dilatation and varying amounts of residual urine, pelvic lavage has been of comparatively little value. For such cases, especially when the condition is one of bacteriuria largely and nephrectomy is contra-indicated, pelvic lavage with 1:5000 formaldehyde has been most satisfactory. In cases associated with mild hydronephrosis the catheter should be pushed high up into the pelvis for thorough drainage before beginning lavage.

H. W. FLAMMEYER

Beer E. Aspects of Renal and Ureteral Lithiasis. *I. I. U. S.* 1914, 15. By Surg. Gynec. & Obst.

Beer cites a number of interesting observations, which demonstrate the following important points:

conditions besides kidney or ureteral stone which can cause typical renal colic

4 Many cases of kidney disease especially tuberculosis cause more bladder than kidney symptoms

5 The first sign of kidney disease especially tumor is a severe hematuria

In conclusion Wettstein refers to several infections which may secondarily involve the kidney (1) acute and chronic tonsillar infections (2) infection in and about the appendix and (3) gall bladder infections J S I SEVERE EDIT

Kreis I F Renal Tuberculosis Its Diagnostic Difficulties and Surgical Problems A 1 49 M J 1914 751 By Surg Lynec & Obat

The author reviews 121 report of 1023 cases of tuberculosis of the kidney subjected to nephrectomy. Of deaths occurring within six months of operation 36 per cent were due to acute general tuberculous, 15 per cent to tuberculous of respiratory organs and 21 per cent to renal lesions.

Of deaths occurring in months after operation 13 per cent were due to acute malaria, tuberculosis, 43 per cent to tuberculosis of the respiratory organs and 40 per cent to renal lesion.

Kreis states that the clinical symptoms of renal tuberculosis namely pain, the affected side enlargement of the diseased kidney, hematuria, pus, blood and tubercle bacilli in the urine, fever, night sweats and emaciation are not seen except in the late hopeless cases.

The early symptom when diagnosis is false are hematuria, albuminuria, pyuria, polyuria, polyakuria and vesicle tenderness.

He emphasizes the value of ureteral catheterism in the diagnosis of renal tuberculosis. He also recommends the logarithmic test to find tubercle bacilli in the urine and finally he recommends that the cases in which the test is false should show a normal second kidney should be removed after removing the diseased kidney.

In the group of cases that he examined in the supposed normal kidney the question as to whether nephrectomy of the most diseased kidney should be done must be decided by the individual case and according to the experience of the surgeon. Some of these kidneys are not really diseased but merely irritated by toxins and should be removed after the diseased kidney is removed. A D I ASSE

Fan J I: Phenolsulphonphthalein Renal Function Test A 1 M J 1914 754 By Surg Lynec & Obat

In order to save the expense of buying good standard colorimeter for making phenol test, Fan uses the following technique. He obtains specimen of the patient's urine before injecting the dye and uses this specimen to make a standard by taking as much of it as is obtained in the first hour output after injection and diluting it 1000 ccm. He then dilutes with 5 ccm of 1 per

cent potassium hydroxide solution and adds 1 ccm of the contents of an ampoule of phenalein. The first hour output is similarly alkalinized and diluted up to 1000 ccm. In order to read its phenalein per cent 100 ccm of the standard solution is diluted until its color matches that of the diluted first hour specimen. Fan found an error of only 2 to 4 per cent by this method. FRA & LYNMAN

Tracy S F: The Phenolsulphonphthalein Test from the Viewpoint of the Abdominal Surgeon J G Gynec & Obst 1914 XII 734 By Surg Lynec & Obat

Tracy employed the test in about 300 cases and the material for his paper is based on the observations of the first one hundred cases on which 120 tests were made. The total output represents the percentage excreted in two hours. He summarized his paper as follows:

1 The dye appeared in the urine in 5 to 45 minutes, the average being 10 minutes and 18 seconds.

2 The average output for the first hour was 14.27 per cent, for the second hour 20.83 per cent and for the two hours 55.1 per cent.

3 In 20 per cent of the tests there was 4 per cent or less difference between the output in the first and the second hour.

4 In the series of cases with the lowest phenalein output were subjected to major operation and had normal convalescence.

5 Other cases with a much higher phenalein output had complicated convalescence with evidence of renal disturbance.

Case 56 with a phenalein output of 53 per cent died of uremia in less than two months.

Case 59 with a phenalein output of 72 per cent lived of uremia in less than one month.

Case 60 with a phenalein output of 55.5 per cent died in the hospital of uremia 52 days after operation.

Case 69 with a phenalein output of 87.5 per cent died in the hospital of uremia 5 days after operation.

In determining the functional activity of each kidney the test should be applied several times and the average taken. The result should then be checked up by the test.

The following are the author's conclusions:

It does not seem possible to obtain the minimum percentage of phenalein output which will indicate the safe and risk of uric operation, nor is it possible from the phenalein test to determine what cases should be subjected to operation. In the judgment of the author it will never be possible to let mine this point by a laboratory test as the functional activity of a kidney varies under different circumstances and at different times.

In determining whether a patient should be subjected to operation the history, clinical symptoms and physical examination are of much greater value than any renal functional test yet devised.

The phenalein test used in conjunction with the

Fuller E. Extraperitoneal Rupture of the Bladder; Its Surgical Management. *J Am M Ass* 1941; 11: 2124. By Surg. Gynec. & Obst.

Fuller pleads for more scientific surgical treatment of extraperitoneal rupture of the bladder stating that many of these cases are left undiagnosed and others which are diagnosed when treated by the usual methods recover only to a certain point and are *de facto* invalids. Usually the clinical symptoms of extraperitoneal rupture are slight and for this reason the condition is frequently overlooked. When seen early a case presents the differential diagnosis between anuria intra and extraperitoneal rupture. Its occurrence with fracture of the pelvis is most frequent and often the tears are multiple. The most frequent site is at or near the trigone. The occurrence in later observed and diagnosed cases of urinary extravasation with subsequent suppuration is almost constant the chief sites of these being posterior in the region of the rectal and seminal vesicles. His method of treatment is by his technique for seminal vesiculotomy. His results in the cases cited were most excellent. His mastery of this difficult technique often permit a complete dissection without the necessity of ligating a single vessel. J S EISENBERG

Lower W F: Diverticula of the Urinary Bladder. *J Am M Ass* 1941; 11: 214. By Surg. Gynec. & Obst.

Lower reports seven cases and emphasizes the following points. He believes that in all of these cases the diverticula were acquired rather than congenital because they were scarcely ever found in the young because they seldom occurred in women and because in most cases there was evidence of obstruction of the urinary outlet. Diagnosis may be made by the cystoscope and by the aid of collagol injections taking the plates at different angles. The author believes that excision of the diverticulum is the only sure method of cure especially if the opening be small and the sac large and infection be present. His technique consists of transverse incision under nitrous oxide-oxygen anesthesia with local infiltration of novocaine. With curved forceps the bladder is brought up to the wound and dissected free from the peritoneum. After the bladder is opened the diverticulum is packed tightly with gauze through its opening and then with fingers inside the bladder the index finger is placed opening of the diverticulum and the thumb on the outside the attachment to the bladder is exposed and divided. The bladder is then retracted away from the diverticulum traction is made on the tumor and it is dissected free from the surrounding tissue. H I S. 2140

Smith E. O. Tumors of the Urinary Bladder. *Lancet Clin* 1941; 1: 6. By Surg. Gynec. & Obst.

The author calls attention to the value of palpation in the diagnosis of tumors. Infiltrating tumors

that can be palpated through the rectum or through the vagina bimanually are malignant.

The author makes a plea for early diagnosis believing that the best results from surgery are obtained in cases in which an early diagnosis is made.

Every patient with hematuria should be given the advantage of an early cystoscopic examination.

The author mentions several cases treated with high frequency current and he believes that from three to ten treatments at intervals of from one to three weeks would completely destroy practically any papilloma. Several interesting case reports are cited. HERMAN L. KRETSCHMER

Hunner G L. A Rare Type of Bladder Ulcer in Women. *J So H S G & G J Ec Ass* 1941; 1: 116. By Surg. Gynec. & Obst.

The author reports eight cases of simple chronic ulcer of the bladder and draws a sharp contrast between these and the simple chronic ulcer commonly described as of the Fenwick type.

These ulcers are classified as simple because of an absence of a demonstrable source of origin and because of the histologic picture of the excised ulcer.

They have all been located in the vertex or free portion of the bladder wall as contrasted with the Fenwick ulcer on the base.

On cystoscopy they are easily overlooked because of the slight mucous membrane changes and the attention may first be arrested by seeing one or two extra pale white scar areas. Beside the scar area is seen a slightly hyperemic spot or a collection of a few fine blood vessels and on touching this area with an instrument or with a cotton pledget blood readily oozes. At times the stretching of the granulating area incident to the ballooning of the bladder in the knee breast posture causes a light ooze and makes the area more easily found.

In spite of the very superficial appearance of these ulcers they at times extend through all the coats of the wall and involve the peritoneum in thickening and adhesions.

Clinically they are characterized by painful, discomfort, frequency, stranguary and loss of rest at night together with their chronicity and resistance to all ordinary forms of treatment.

The urine in all the cases was macroscopically clear and normal but a microscopic study of the centrifuged specimen revealed in each case a few leucocytes and a few red blood corpuscles. In no case was there an associated bacteriuria. The ulcer may temporarily heal on the surface when the urine becomes free of pathological elements until the surface is again broken. But one patient of the series had ever noticed blood in the urine contrasting sharply with the Fenwick ulcer in which the most important feature is hemorrhage.

The diagnosis of this variety of simple chronic ulcer is fully established only after a failure to heal under ordinary forms of treatment when excision of the inflammatory area with the entire subtending bladder wall results in prompt recovery.

pus in the ureteral specimen will cloud the field. There is difficulty in interpreting inflammatory areas and ulcers because of the poor distention with the water method. As an expert only can inspect the entire cavity of the bladder minute lesions may evade the inexperienced eye. It is impossible to apply medicines locally and to remove foreign bodies by the water distention method. All of these difficulties the author believes are overcome when the air method of distention is used with the patient in the Kelly or knee chest position.

Goldman emphasizes the necessity of cystoscopy in every major gynecological operation and in patients requiring catheterization either before or after operation. He believes that it would be much better if every abdominal case was subjected to cystoscopy before operation. When foreign bodies are encountered in the female bladder they should be removed through the Kelly endoscope. When the following complications are present the author finds it impossible to use the electric cystoscope: (1) inability of the vesicle sphincter to retain water in the bladder (2) pus or blood escaping from the ureteral orifice or from a fistula which blurs the water medium (3) resistance of the bladder wall to water distention.

The author reviews several cases and points out the importance of cystoscopy in the female when bladder symptoms are not relieved by operation or when urinary findings are present. In one case he found many small pieces of a glass catheter several examinations being required before they were all removed. The importance is emphasized of the introduction of ureteral catheters to the ureters when extensive operations on the pelvis are contemplated. It is stated that this can probably be more easily done with the Kelly instrument than with the water electric cystoscope.

The following conclusions are reached: 1. The electric cystoscope is indispensable to the general or gynecological surgeon and to increase the percentage of correct diagnoses the instrument should always be used.

As a routine procedure the Kelly method is the one of choice and superior to any other known method.

2. The use of a cystoscope is not difficult and can be mastered by anyone who has patience and a desire to master it. It is diagnostic and as a means of treatment it is indispensable. It should always be used in the examination of women presenting bladder symptoms. G. J. TROM

Squar J. B. Subtotal Cystectomy. J. Am. W. A. 94 June 68. Byberg Gynec. & Obst.

Although cancer of the bladder constitutes 3 percent of all cancers in the male until recently there has been no adequate surgical technique for its extirpation. The difficulties governing this condition have been the lack of a definite surgicalotomy the questionable operative power of the bladder the question of conservation

of the terminal ureters and hesitancy in attacking the problem along definite surgical lines. The ideal extirpative operation for vesical neoplasm will be a technique which conserves or reconstructs the three natural orifices of the bladder at the same time removing the tumor *en masse* with iliac adenectomy when the glands are involved.

There is virtually no difference between intra-peritoneal and extraperitoneal surgery for this class of work. The desirability of a wide free exposure of the entire posterior surface of the bladder cannot be too strongly insisted upon. The author's technique for subtotal cystectomy may be summarized as follows:

Incision. Transverse or median longitudinal. The longitudinal incision begins one inch above the navel on the left side and extends to the symphysis.

Step 1. Divide the anterior sheath of the rectus 1 cm to the left of the midline and displace the left rectus outward. The posterior sheath above the semilunar fold is divided and the peritoneal fat is exposed from the navel to the symphysis. The urachus and obliterated hypogastric uterus are found underneath the fat layer. From here on the operation may be carried out entirely extraperitoneally or transperitoneally.

Step 2. The peritoneum is incised from the navel to the level of the semilunar fold of Douglas the patient being placed in the Trendelenburg position. The wound being protected with pads from implantation of tumor cells.

Step 3. The urachus is grasped with a Barret intestinal forceps and traction is made upward throwing into relief the obliterated hypogastric arteries as they diverge to enter the true pelvis. The left obliterated hypogastric artery is grasped with forceps and traction made upward and to the right. By blunt dissection between the hypogastric artery and the lateral wall of the pelvis the vas deferens is brought into view as it courses along the pelvic wall to the inner side of the obliterated hypogastric artery.

Step 4. With a blunt hook passed along the vas the pelvic ureter is uncovered the ureter being crossed on its inner side by the vas deferens. Any radical technique directed to the extirpation of neoplasm must have as its essential point the two ureters exposed and constantly in view.

Step 5. Divide the urachus close to the summit of the bladder and draw the bladder downward toward the symphysis. If the peritoneum is not already infiltrated divide freely including the pouch of Douglas mobilizing the entire bladder except the pubovesical attachment. If the peritoneum is found firmly attached and already the seat of malignant attachment this area is left undisturbed and a wide encircling incision is made about the infiltrated peritoneum.

Step 6. The divided lamella of peritoneum is carefully attached to the upper end of the abdominal incision so that for further operative purposes the peritoneal cavity is closed.

Step 7 A one-inch incision is made in the bladder high up in the posterior surface for inspection of the viscera.

Step 8 The neoplasm is excised *en masse*, together with a wide margin of healthy uninvaded tissue comprising the entire thickness of the bladder wall. If the ureter is affected it is divided between the ligature above the growth and the distal portion is removed with the tumor.

Step 9 The hiatus of the bladder wall is partially repaired with a Connell intestinal suture; a stab-wound is made through the bladder wall at a point approximating the normal ureteral opening, and the proximal end of the divided ureter drawn through this opening by a thin dressing forceps.

Step 10 The ureter is anchored to the bladder wall, allowing one-half inch to protrude; two flaps being dissected and anchored on the inner surface of the bladder. The remainder of the bladder is closed and through a stab wound high on the anterior surface of the viscera a No. 6½ soft rubber catheter is inserted and sutured *in situ*.

Step 11 The final step is the reposition of the peritoneum over the vesical suture line and an accurate closure of the peritoneum care being exercised not to approximate the peritoneal and bladder suture lines. A cigarette drain is inserted into the back lateral space. In addition a self-retention catheter is inserted.

It is often wise after excision to scar the cut edges of the bladder and wash out the bladder with 50 per cent resorcin or 1:5000 bichloride.

H. W. FLAGGMEYER

Reynolds E. Complete Vaginal Extirpation of the Bladder for Malignant Disease. *J. Amer. Med. Ass.* 1914, LXI, 13. By Surg. Gynec. & Obst.

The author describes in detail a method of removing the bladder *in toto* through the vagina and transplanting the ureters into the anterior vaginal wall.

He makes a slit in the anterior wall of the vagina first making a transverse incision cutting immediately in front of the cervix and second an incision along the median line of the anterior wall of the vagina.

A detailed description of this operation would occupy too much space. Reynolds admits that this method is new and has not been officially tried out but, nevertheless, he believes that the time may come when this technique will be worked out successfully and the vagina be used for the reservoir of urine.

He describes one case which was to some extent successful. Twenty-three days after the operation the patient being in good condition the vagina was closed by the denudation of the entire vaginal surface to a point just below the internal orifice of the urethra and to a corresponding height on the posterior lateral walls. The upper part of the wound was brought together by buried catgut sutures and the lower part by silk-worm sutures. A soft catheter

was tied to the urethra and left until eight days later when it was withdrawn and the patient passed urine voluntarily. In a few days after the withdrawal of the catheter the patient's temperature went up to 99° and 100°. She was discharged at the end of 12 weeks with a normal temperature and free from discomfort but later died from pyelitis.

In conclusion the author says that in another case of this character he would not be disposed from present information to hold out any great hope of prolonged life but if the disease had gone too far to permit of a hopeful reaction, and the symptoms were distressing, he would still regard it as the best method of obtaining euthanasia.

A. C. STOKES

Jewsbey O. S. Congenital Malformation of the Posterior Urethra. *Am. Surg. Phila.* 1913, LX, 733. By Surg. Gynec. & Obst.

Jewsbey reports a case of congenital obstruction to the male urethra at the utermost end of the verumontanum.

The child, aged three and one-half months, was admitted to the hospital July 30, 1913, as an urgent case. It had a temperature of 103° and died a few hours afterwards with edema of the lungs. The only history obtainable was that the child had been ill for a few days only and the mother had noticed nothing unusual about its micturition.

Autopsy showed that the urethra just anterior to the verumontanum was completely occluded by a band extending entirely across the same which band was perforated at one point and allowed the urine to go through drop by drop but evidently not as rapidly as it was secreted.

A long discussion is given of this case and the pathological findings are very minutely described. A bibliographic report is appended which includes a discussion of many of the reported cases.

There is no doubt the author believes that on account of the urinary obstruction to the outflow the dilatation of the bladder, ureters, and kidneys in his case began as soon as the kidneys began to secrete. The bladder undoubtedly filled up and its repeated contraction caused dilatation of the posterior urethra, bladder, and kidneys. He infers that a certain number of hydrourephoses are due to such instances and that possibly many are not diagnosed during life.

A. C. STOKES

Vinson J. C. Gummata of Anterior Urethra. *S. with M. J.* 1914, 883. By Surg. Gynec. & Obst.

Vinson remarks the infrequency of gummata of the anterior urethra, quoting Steingel's statement of its histopathology. The case reported concerned a man, aged forty-three, who sought medical aid for stricture. The family history was negative. The patient admitted a complicated gonorrheal infection but denied the possibility of funus. Signs of stricture evidenced themselves three months

before he sought treatment. Examination revealed a well defined tumor extending from the meatus along the urethra for two inches forming a cuff one fourth inch in thickness entirely around the urethra. Wassermann test was positive. A section from the new growth agreed with the histopathology of gumma. Increasing doses of potassium iodide caused the rapid disappearance of the tumor.

J S EISENSTADT

Hinman P Priapism 1 S S g Phila 9 4 1
689 B, 1 rg Gynec. & Obst

Pathologic erections may be grouped into two distinct classes: transitory erections and true priapism. Erections of short duration are relatively common with all inflammatory conditions of the lower genito-urinary tract and sometimes accompany certain diseased conditions of the nervous system. They are pathologic in the sense that they are painful and without sexual desire but their frequent occurrence, short duration and tendency to recur strongly distinguishes them from the uncommon and remarkable condition of prolonged and persistent erection. Many cases of true priapism, however, are preceded by these transitory erections and therefore such cases are of importance as a factor of predisposition to the rarer and more serious condition.

Transitory erections may be of two kinds:

1. Acute transitory erections which occur commonly as reflex forms with any abnormal condition of the lower genito-urinary tract and which clear up permanently with relief from this trouble. Twenty of such transitory erections have been reported as cases of true priapism and all were due to an ascending peripheral stimulation as the result of irritation from some disease of the genitals: urethritis 12 cases, polyp in the posterior urethra 3 cases and one case each from stricture, chancroid, herpes genitalis, venereal warts and varicocele.

2. Chronic transitory erections which are painful, usually nocturnal and of short duration but of such frequent recurrence and extending over such a long period as to greatly interfere with sleep and with the pursuit of the patient's occupation. Nineteen of such cases have been reported as cases of true priapism. They are found to be mostly nervous in origin. Nine occurred in the early stages of tabes dorsalis, 6 had some definite but obscure psychic cause, 3 were the result of some irritation of the brain or cord center from infectious toxins, the erection recurring and subsiding with the rise and fall of the temperature and one case was the result of an overdose of cantharides.

True priapism in contradistinction to these transitory nonsexual erections is a remarkable pathologic condition of prolonged and persistent erection accompanied by sexual desire and usually painful. It responds to no form of medication and subsides spontaneously sometimes quickly but usually very gradually. Its pathogenicity is obscure and the condition is very rare, there being

only about 170 cases reported in the whole medical literature. The dual mechanism, nervous and circulatory, of normal erection although complex indicates a dual pathogenicity for the pathologic manifestation and every case of true priapism in the final analysis may be grouped as due either to a nervous or a mechanical factor or to a definite combination of these.

According to this pathogenicity the cases may be classified as—

- | | |
|---|-----------|
| I Due to nervous causes | 35 cases |
| 1 From ascending peripheral stimuli (reflex) | 3 cases |
| 2 From direct stimuli | 15 cases |
| (a) To the spinal cord center | |
| (b) To the nervi erigens or pudens | |
| 3 From descending cerebral stimuli | 17 cases |
| (a) Direct | |
| (b) Indirect | |
| II Due to local mechanical causes | 135 cases |
| 1 Thrombosis or pseudothrombosis | 125 cases |
| 2 Hemorrhage and hematoma | 7 cases |
| 3 New-growths of the penis | 2 cases |
| 4 Inflammatory swellings and edema of the penis | 1 case |

Of the 170 cases of true priapism analyzed 35 may be attributed to nervous causes and form a very interesting group. Only 3 were the result of ascending peripheral stimuli and these were all of only a few days duration. The remaining 32 cases were the result of descending impulses, 17 from the brain and 15 from the spinal cord. Five cases associated with nasal polyp suggest an interrelation with the genital spots of Fliess and a therapeutic measure in certain cases of psychic priapism.

There were 135 cases which had a mechanical or a combined nervous and mechanical element as a cause for the priapism. Thrombosis of the veins of the corpora cavernosa was by far the most common factor and may be assumed to have occurred in 125 of the cases. Forty-five cases show a definite relationship to leukemia and the pathogenesis in these cases, probably both nervous and mechanical in character. The mechanical factor is thrombosis or pseudothrombosis. The nervous factor is probably incited by the condition of the blood setting up a reflex erection (over 50 per cent were preceded by intermittent transitory erections) which is then prolonged by a subsequent thrombosis. The explanation of these cases of mechanical priapism lies for the most part in the principles of thrombus formation. There is a slowing of the blood stream with a widening and stretching of the vessels and the formation of eddies. Blood platelets or leucocytes are deposited and in case the factor of agglutinability is present are cemented together so as to plug the vessels. Later there may or may not be the liberation of fibrin and coagulation.

Thirty-four of the cases have been treated by operation with immediate cure in all but 2 cases.

one of which was of nervous origin the other operation was a failure apparently because the incisions were too superficial. The division of pathologic erections into four groups suggests the need of a different procedure in the treatment of each group. Acute transitory erections demand local treatment of the inciting genital condition. Chronic transitory erections, on the other hand since they are so frequently of nervous origin will often demand operative measures along the same lines as for nervous priapism. The treatment of priapism of nervous pathogenesis requires thorough general measures before operative intervention is considered. Eighty per cent of cases have a duration of less than 10 days and particularly in the brain or spinal cord injury cases the general condition of the patient is so serious that the priapism is of minor and secondary importance. For the priapism of mechanical pathogenesis of which about 95 per cent are due to thrombosis or pseudothrombosis, a simple and effective operative treatment consists in incision and drainage of one or both corpora cavernosa. In the 33 cases in which it has been used this procedure failed to effect a cure only once the incisions in this case being too superficial.

GENITAL ORGANS

Corner E M Extended Clinical Experience in the Treatment of Imperfectly Descended Testicles. *Cal J* 94: 68. By Surg Gynec & Obst.

The imperfect descent of the testicle is usually due to partial development of the tunica vaginalis forming a potential hernial sac. This is a congenital deformity which shows in the anatomy and physiology of the testicle. Expectant treatment is terminated by the appearance of a hernia. Operative procedure is then indicated. This may be done in one of three ways as follows.

The hernial sac is divided and stripped of the cord allowing the testicle to descend. This is called orchidopasty and it is done in 40 per cent of the author's cases. Orchidopexy is done when the testicle is fixed in the scrotum. It is only indicated when there is a combined congenital condition causing hernia and imperfect descent for atrophy and fibrosis may follow thus destroying the internal secretion. It is done in 60 per cent of the author's cases.

After twenty years of age orchidectomy is usually advisable especially if the imperfect descent is unilateral. The after results are satisfactory. In some cases it is preferable to return the gland to the abdomen intraperitoneally. This is an orchidocolpasty. Increased dangers of theoretical malignancy or of gonorrheal orchitis are greatly overestimated. The internal but not the external secretion is preserved. It is performed in 50 per cent of the author's cases.

The summary is based upon the patient's age.

Up to five years operation is advised if a hernia is present. Orchidopasty is preferred. Between seven and twenty operation is indicated, either orchidopasty, orchidectomy or orchidocolpasty being chosen. After twenty years, an orchidectomy is indicated. C D PEXCEL.

Rigdon R L Does a Relationship Exist Between Tuberculosis of the Epididymis and Tuberculosis of the Kidney? *Cal J St J Med* 1914, 21: 5. By Surg Gynec & Obst.

In the consideration of tuberculosis of the epididymis and kidney the author analyzing 111 cases of tubercular epididymitis reported by Barney found 4 only in which the kidney was involved. He further reports that in 90 patients with epididymal tuberculosis 34 per cent showed prostatic involvement in the first year and 35 per cent showed vesical symptoms.

Keyes reporting 100 cases of tuberculosis of the epididymis, states that 11 gave evidence of previous kidney involvement in 9 cases extension took place from the testicle to the kidney.

Cholozoff in 74 cases of genital tuberculosis, found 5 cases of kidney involvement.

In Braasch's report of 203 cases of renal tuberculosis he noted 60 per cent with evidence of genital involvement the epididymis being most frequent. Javv S Katz.

Smith D O and Frayser B H Operative Treatment of Acute Epididymitis. *Ann Surg Phila* 94: 170. By Surg Gynec & Obst.

The authors note the scarcity of case reports concerning the procedure and discuss the symptomatology of this condition fully. They place great emphasis on the permanent damage such as retention cysts, glandular atrophy, fibrous hypertrophy frequently encountered as a result of acute epididymitis. They claim that operative procedure diminishes the extent of the damage, lessens the pain and hastens the recovery which is also more complete.

General anesthesia is preferred, although novocaine has been successfully used. An incision is made large enough to deliver the testicle which may not always require delivery of the inflamed portion as exposed and multiple puncture made with a blunt instrument—probe. The occurrence of hydrocele or haemorrhage makes a more extensive procedure imperative. In the absence of complications the incision is closed by suture and a gauze drain inserted. Usually by the fourth day the patient is up and by the sixth day is out of the hospital.

The author's experience covers 300 cases. A fall in temperature has been noted following operation generally in 36 hours there were no relapses, no nodular inflammation and in a few observed cases there was a fall in the leucocytic count. No infection has been known to follow this procedure.

LOUIS L. TEN BROECK

Herbst R H The Treatment of Hydrocele with Special Reference to Phenol Injection *J Am W Ass* 914 Jan 2 9 By Surg Gynec & Obst

Herbst calls attention to the importance of a preliminary tapping in all cases of hydrocele when the sac of the tunica vaginalis is well filled with fluid and it is difficult or impossible to palpate the contents of the scrotum believing that in most cases there is an underlying pathology which should be determined before choosing between one of the open operations and the injection of carbolic acid.

He states that in many cases an open operation is not only unnecessary but contra indicated viz in cases where the hydrocele is secondary to advanced tuberculosis of the genital tract and in cases of syphilis of the testicle.

Recurrences following the carbolic acid injection method are extremely rare if the sac is thoroughly washed with sterile water before the phenol is injected. The author emphasizes the importance of washing out the sac and reports excellent results with this method of treatment. In cases of chronic pachyvaginitis in which the sac wall has become greatly thickened he prefers excision to either eversion or injection. The injection of phenol is not followed by atrophy of the testicle although it may rarely produce a pteresticular sclerosis.

Curston C G The Dangers Connected with Removal of the Seminal Vesicles *Am J Urol* 942 53 By Surg Gynec & Obst

The removal of the seminal vesicles is not a simple operation as suppurative and fistula frequently occur. There are three routes for operative attack on the seminal vesicle anterior inferior and posterior. In the anterior route the chief difficulties are rupture of the vas which usually occurs near the junction of the vas with the vesicle and if the vesicle has been dissected slightly it may even bring portions of the caecum with it. Wounds of the ureter and tears of the vesicles are very common and are troublesome because of oozing. In the perineal route the chief complications are those due to isolation of the vesicle namely hemorrhage and urinary fistula. Opening of the rectum may take place and suppuration is common. The posterior operation is performed through the sacrum and the coccyx. The shock is great and the danger of hemorrhage opening of the rectum and suppuration are possible in all times.

In conclusion the author states that the removal of the seminal vesicles should be limited to a small group of selected cases. The simple removal of the epididymus and as much of the vas as it is possible to remove through the external abdominal ring usually will be sufficient. *J D LEXPERASSE*

Neuber G F Carcinoma of the Prostate (Über die Entfernung der Prostata) *Ztschr f urol Chir* 94 45 By Zentralblatt f urol Chir u i Grenzgeb

The number of authentic cases of carcinoma of the prostate has increased recently on account of

more refined methods of diagnosis more extensive operations and more accurate pathological anatomical examinations. It now constitutes about 1.42 to 2 per cent of all carcinomata.

The histories of 30 cases are given and discussed in detail both from the clinical and pathological anatomical point of view. The ages range from 49 to 88 years the sixth decade yielding the greatest percentage. The cases sometimes are of very long duration — 15 to 20 years — especially when there are bone metastases. Both the local and general symptoms are very uncharacteristic. On rectal palpation the gland is frequently very painful and hard. All forms and sizes of tumors appear.

Transmission to the bladder rectum and other pelvic organs are discussed. Liquefaction of the tumor is rare. Lymph gland metastases are frequent especially in the true pelvis and retroperitoneally. Bone metastasis is important as it appears in the form of softening or as osteoplastic carcinoma. The spinal column pelvis and femur are most often involved. Certain places in these are most often affected and the exact localization of these places is shown.

In all suspicious cases of tumors of the prostate a roentgen examination should precede an operation which may be shown to be useless. Neuralgia sciatica and pain in the bones in old men should lead to early roentgen examination and arouse a suspicion of carcinoma of the prostate. This typical form of metastasis is discussed from the standpoint of pathology and further complications are mentioned such as spontaneous fractures metastases in the liver lung kidney pleura and dura as well as ruptures of the cancer into the bladder and rectum.

HORMANN

Keyes, E L Jr A Method of Minimizing Hemorrhage after Suprapubic Prostatectomy *J Am Urol* 1914 1 7

By Surg Gynec & Obst

The method consists of passing a suture from the perineum into one side of the bladder neck—after removal of the hypertrophied prostate—out again through the other side and back into the perineum where the suture is drawn tightly over a gauze pad. To a old fistula the suture must be removed the following day. The details are too complicated to be abstracted. Keyes claims to his suture rapidly simplicity and relatively complete checking of hemorrhage.

Thomas, B A The Role of Functional Kidney Test and Pre-Operative and Post-Operative Treatment in the Reduction of Prostatectomy Mortality *J Am Urol* 94 1 909

By Surg Gynec & Obst

In the estimation of renal sufficiency in candidates for prostatectomy Thomas proposes an index of elimination with indigo-carmin. The index is determined by dividing the quantity of the dye eliminated during the first hour by the quantity

eliminated during the third hour after injection. This quotient according to Thomas is a truer guide as to the renal function both from a clinical point of view and from operative results than any other method that he has utilized. In a series of normal cases the index of elimination averaged 5.

In cases with diseased kidneys the onset of elimination is delayed and the amount of early elimination proportionately diminished while the duration of elimination is prolonged. The relative outputs of the first and third hours will therefore have more significance than the determination of the mere quantitative output for the first two hours. When the third hour output equals or exceeds that excreted in the first hour—index of elimination 1 or less—the finding possibly contra indicates serious operative intervention namely prostatectomy unless the total amount eliminated in three hours exceeds 20 per cent when operation may be considered even though the index of elimination be very low.

IRA K. HIRSHMAN

MISCELLANEOUS

Barney J. D. The Ultimate Results of Genital Tuberculosis in the Male. *J. Am. U. Ass.* 9:4 Jan. 1927. By S. T. Gynec. & Obst.

In a series of 154 cases of genital tuberculosis Barney found the disease present in other organs in 55.8 per cent the lung being most frequently involved in 35 cases 22.7 per cent of the whole. Kidney and bone infections came next with seven cases each.

Among the 154 cases renal tuberculosis occurred in 18 it preceded the genital lesion in 7 and followed it in 11. It is thus seen that the infection more frequently extends upward than downward a fact which in the author's opinion favors strongly the belief that the tubercle bacillus spreads via the lymphatics. In cases in which epididymal tuberculosis on one side is followed by an involvement of the opposite kidney it is to be accounted for by a crossing of the lymphatics at the base of the bladder. The guinea pig test of the bladder urine in such cases is a point of the utmost importance not only for purposes of diagnosis but also of prognosis. If a positive test is obtained, it shows either that there is renal involvement or that the bladder has become infected by extension of the disease from the prostate or seminal vesicles. In 8 out of 10 of this series tubercle bacilli were found in the urine before operation. The urines of those now dead contained pus, blood, albumin and casts in various combinations in 77 per cent while of the patients living the urine was pathologic in but 38 per cent.

The operative mortality for the 154 cases was 2.50 per cent. Of 113 patients traced over 27 per cent

have died of some form of tuberculosis. Forty-one per cent of 58 patients have died of this disease within a period of six years after operation. Of the deaths from tuberculosis 14.2 per cent occurred within one month 32.1 per cent within six months, and 50 per cent within one year after operation. During the first six years 85 per cent died, while between the ninth and eleventh years 10.7 per cent succumbed. Miliary renal and lung tuberculosis are in order the final types of the disease. A large majority of those dying of tuberculosis had had one or more outbreaks of the disease both before and after operation. Barney's experience warrants the conclusion that until at least ten years have elapsed after operation no patient can be said to be cured of tuberculosis.

The records of those now living show a much smaller percentage than do those of the dead, of other tuberculous processes before operation, but many of them have since developed other foci. As 81 per cent of those examined and 38.5 per cent of those heard from are still within the six-year period in which it was found that 85 per cent of deaths had occurred, it is to be expected that the deaths from tuberculosis in this group are not yet at an end.

While genital tuberculosis even if unilateral, results in sterility in most cases neither the disease nor the operation for its relief including double orchidectomy seems to impair masculinity.

In not one of one hundred cases of epididymectomy has a subsequent orchidectomy been necessary although in three instances there has occurred a tuberculous funiculitis simulating testicular involvement. This is remarkable in view of the fact that the testicles were found to be macroscopically tuberculous in 44 per cent and microscopically so in cases of orchidectomy in 66 per cent. Where experience and judgment are exercised the testicle need rarely be removed for unless very extensively involved curettage or excision of the tuberculous foci is sufficient.

Although the prostate and seminal vesicles are secondarily involved in most cases of epididymal tuberculosis (65 cases in this series) their condition will improve or heal after removal of the epididymus. Radical surgical treatment of these organs is unnecessary and unwise. The long life and good general condition of many patients even though suffering from repeated outbreaks of tuberculosis, show that the survival of the patient depends largely on his ability to immunize himself to the disease. Therefore our efforts must be directed not merely toward suitable surgical treatment but also toward helping the patient develop that immunity which is so important. For this purpose hygienic, sandalwood oil and tuberculin are essential.

SURGERY OF THE EYE AND EAR

EYE

Appleman L. F. *Ectropion of the Eyelids Corrected by Skin Grafts* *Ophthalmol* 914 xi 49
By Surg Gynec & Obst

Appleman reports a case of cicatricial ectropion following burns from an explosion which was corrected by skin grafting. The technique used consisted of an incision through the cicatrix on the forehead with complete separation of adhesions so as to allow the upper lid to drop to its normal position. In this position it was secured by three anchor silk sutures holding its free margin in approximation with the skin of the cheek to allow for subsequent shrinkage. The exposed areas were covered with skin grafts dressed with oiled gutta percha tissue and held in place by light compresses. After the second day warm compresses wet with a 1 to 1000 bichloride solution were applied. The sutures were removed on the fourth day. The result was good.

Ectropion of the lower lids was corrected by a similar procedure but in this instance the margin of the lower lid was held in slight overcorrection by suturing it to the margin of the upper lid.

Appleman is of the opinion that oiled gutta percha dressings in skin grafts are better than compresses for promoting healing and preventing supuration. A wide margin of overcorrection must be aimed at in all such operations to allow for subsequent shrinkage of the cicatrix. L. F. SLAVIK

Todd R. *Extra Ocular Tendon Lengthening and Shortening Operations Which Enable the Operator to Regulate the Effect* *Ophth Rec* 94 xii 68
By Surg Gynec & Obst

Todd describes his method of graduated tenotomy in which cuts are made at alternate positions on opposite sides of the tendon and a tucking operation in which the muscle is rolled around on an instrument and then secured by suture.

The tenotomy cuts extend through more than one-half the width of the tendon. Two or three are usually sufficient. This leaves the tendon in the form of a Z or W. The author claims that the dangers of correction are eliminated and the opportunity for regulating the amount of the result greatly improved.

In the tucking operation the tendon is dissected free and is doubled on itself by a special instrument by which the amount of overlap can be regulated. The approximated surfaces are abraded and then sutured by passing two catgut ligatures through the center of the overlapped portion and tying one each way thereby constricting the tendon in two

bundles. Two silk sutures pass through back of the first including the conjunctiva pass forward and through the episclera very near the corneal border and parallel to it one up and one down. The corneal end of each is united with the portal end and the amount of pull exerted in making this knot regulates the amount of correction. These ends may be tied temporarily and changed at a later date if necessary as they are outside of the conjunctiva.

The article includes case reports and illustration of the steps of the operation. E. B. FOWLER.

Greeves R. A. *Case of Supernumerary Punctum Lachrymal and Canaliculus* *Proc Roy Soc Med* 94 1 Sect Ophth 14
By Surg Gynec & Obst

Greeves reports a case of supernumerary puncta and canaliculi in which two distinct ducts leading to the lachrymal sac were present on the lower lid. The upper punctum and canaliculus were normal. He states that more than 40 cases of supernumerary puncta have been published; they are usually found on the lower lid and none of the cases was bilateral.

The nasal duct appears the sixth week of fetal life. From a solid epiblastic cord appearing as a thickening in the lachrymonasal groove an expansion with two outgrowths at its upper end appears which structures later become hollowed in the center to form the canalicular sac and duct. The presence of supernumerary parts may be explained by the assumption of supernumerary outgrowths from this epiblastic cord. W. G. REEDER.

Green L. D. *Recent Advances in the Treatment of Dacryostenosis* *J Ophth & Oto La yngol* 94 4 353
By Surg Gynec & Obst

Green reviews West's method of producing a permanent opening from the nose into the lachrymal sac. Attention is called to the desirability of preserving the canaliculus as the function of the lachrymal apparatus is more perfectly regained. He reports two cases in one of which both sacs were opened with successful results. W. G. REEDER.

Gibbons E. E. *Keratoconus* *Ophthalmol* 914 xi 77
By Surg Gynec & Obst

Gibbons reports a case of a cortical cornea improved by flattening of the cornea by the application of a cautery electrode close to the surface but not in actual contact, being constantly moved about in a circle over the area 3 mm in diameter. After several months a bilateral iridectomy down and in was performed. Vision was markedly improved from 12/200 RE and LE to 20/50 RE and 20/40 LE.

with -5.30° and -5.10° respectively. Very little irregular astigmatism remained after the operation.
E. F. SLAVIK

Fleischer B. A Case of Bilateral Keratoconus Examined Anatomically the Hemosiderin Ring of the Cornea in Keratococcus and Hemosiderosis of the Eye in Diabetic Bronze. *Arch Ophth* 94 314 60
By Surg. Gynec. & Obst.

Fleischer found that the brown ring in the case of keratoconus was hemosiderin which had diffused into the corneal epithelium from small hemorrhages occurring in connection with defects in Bowman's membrane. His explanation of the ring formation is that a small blood vessel with a granule of hemosiderin adjoining it just below the defect in Bowman's membrane ruptures and diffuses hemosiderin through the corneal epithelium which spreads out into circular form because of the pressure there. He does not claim that the ring bears any relation to the etiology of keratoconus since he found this same ring in a case of diabetic bronze.
C. A. MARCEY

Wray C. The Operative Treatment of Keratoconus—Conical Cornea. *Proc Roy Soc Med* 1914 Ser. Ophth 5
By Surg. Gynec. & Obst.

When the diagnosis is certain and the patient is over 25 years of age some form of active treatment is indicated especially if the astigmatism is progressive. Rules as to cauterization cannot be exact. At least three sittings are usually necessary with Snell's cautery at almost a blank heat. Sufficient reaction must be obtained to result in the formation of connective tissue. When thinning of the cornea is pronounced little connective tissue results from a single cauterization. An iridectomy or trephine is advised by some surgeons to reduce the tension of the anterior chamber. A series of six cases is reported with good result.
W. G. R. ROSS

Vali D. T. Delayed Healing of the Wound in Cataract Extraction and Its Proper Treatment. *Okajima J* 94 374
By Surg. Gynec. & Obst.

Vali reports 3 cases of delayed union of the wound of incision after cataract extraction, in which a hitherto unsuspected cause for retarded healing was perceived and treated accordingly with prompt and most gratifying results.

In the absence of the common causes of retarded restoration of the anterior chamber, his cases such as the presence of shreds of capsule tags of iris, hernia of iris or vitreous fragment of lens blood clots etc. the writer actually observed with the Berger loupe intermittent spurt of escaping aqueous, and attributed it to the orbicularis. He rightfully concludes that this alternate contraction and relaxation produces sufficient recurrent pressure on the convexity of the cornea to allow the

aqueous to leak just enough to hinder the healing process.

Tenotomy of the orbicularis brought about the prompt restoration of the anterior chamber and verified the observations and forces at work in these particular cases. The muscle was cut both upward and downward at right angles to the external palpebral ligament. The anterior chamber remained empty for 26, 24 and 12 days respectively but reformed in 24 hours in all 3 cases after this simple operation.
G. D. THORNTON

Hansell H. F. The Extraction of the Cataractous Lens in Its Capsule as Practiced in the Colica Hospital Bucharest Roumania. *Proc Roy Soc Med* 1914 Ser. Ophth 5
By Surg. Gynec. & Obst.

Hansell gives a brief and clear description of Stanculescu's operation for the extraction of the lens within its capsule.

In every case a conjunctival sliding flap is made above which when drawn down after the extraction is completed and properly sutured will cover the upper third of the cornea.

The advantages of the flap are preservation of intact vitreous, rapid closure of the corneal wound, prevention of entrance into the anterior chamber of foreign or septic material and a safeguard from accidents during convalescence. A corneal section comprising one half or nearly one-half of its circumference should be made in the cornea rather than in the scleral limbus. After making a narrow incision the largest possible fold of capsule is grasped by specially designed sickle shaped forceps wide horizontal upward and downward movements are made to rupture the zonula after which the forceps are withdrawn and then with gentle pressure the lens is expressed in the usual way.

The comprehensive conclusions seem justifiable: (1) Stanculescu's operation is to be recommended only in incomplete senile cataracts, both mature and immature. (2) It is not adapted to the extraction of hypermature cataracts.
G. D. THORNTON

Eason H. L. Piece of Steel in the Vitreous. *Proc Roy Soc Med* 94 314 Ophth 50
By Surg. Gynec. & Obst.

Eason reports a case of steel in the vitreous which could be seen lying on the retina below internal to the disc and uncovered by exudate. There was a subhyaloid hemorrhage and some exudate in the neighborhood of the foreign body. The iris was discolored. Vision was 6/9. Eason advised leaving the foreign body alone for the present.
W. G. R. ROSS

Cannonet M. Traumatism of the Eye and Their Consequences from the Medical Aspect. *J. M. Rec* 94 350
By Surg. Gynec. & Obst.

The different solid fluids and gases causing burns of the eye are enumerated and among them vitrol is given first place.

The various parts of the eye which are subject to burns are discussed the first being the lids. The gravest danger is cicatricial ectropion and its sequelae such as ulceration of the cornea.

Emphasis is laid on the sensitiveness of the cornea following burns especially those in which there is a leucoma. The author states that some leucoma can be cured but that where anaesthesia is present a grave prognosis is given.

Ulceration with perforation and symblepharon are briefly considered. Removal of the caustic etc from the eye in the author's opinion constitutes the best emergency treatment for burns of the eye.

Secondary cataract and glaucoma following penetrating wounds and contusions are discussed very briefly. Severance of the optic nerve following basal skull fracture also sympathetic ophthalmia are also discussed.

SYDNEY WALLACE JR

Love J M Simple Angioma of the Choroid
Irch Ophth 19 4 1: 607

By Surg Gynec & Obst

Love concludes from his case which he compared with all others on record that angioma of the choroid have their origin in the macular region that they are simple not cavernous in type and are probably due to some congenital disturbance in the innervation of the vessels supplying the affected region. The cases referred to are twenty one in number six of which were associated with naevi of the face. Clinically they have been found in the macular region as evidenced by a central scotoma and a contraction in the field of vision pathologically by increased thickening there. This case showed no vascular spaces with septa but an abnormal growth of capillaries with varying amounts of stroma which points to its simple character.

From an examination of one hundred and fifty one cases of angioma of the skin an intimate connection was traced between them and a glioma of the choroid. Both are similar in structure and appear during the formation and growth of the vascular system and as a congenital disease of a single spinal ganglion originating in the uterus is the cause of the skin degeneration developed in the peripheral region of the corresponding spinal nerves it is reasonable to conclude that the same factors produce a similar condition in the choroid.

C A MAGUIR

Mayou M S Optic Neuritis with Symmetrical Loss of the Lower Portion of the Field Associated with Diabetes
Proc Roy Soc Med 9 4 11 Sect Ophth 48

By Surg Gynec & Obst

Mayou reports a case of symmetrical loss of the lower portion of the field associated with diabetes. The right eye first affected showed an optic neuritis with swelling of the disc. One antrum was found full of pus and was drained. Seven months later an optic neuritis of the left eye developed. At the same time the urine was found to contain a large

amount of sugar. A diabetic diet resulted in a slight improvement of the fields.

W G REEDER

Henderson E E Rupture of the Optic Nerve at the Lamina Cribrosa
Proc Roy Soc Med 9 4 11 Sect Ophth 158

By Surg Gynec & Obst

Henderson reports a case of rupture of the optic nerve at the lamina cribrosa in a boy who had been struck by a brick over the right eye. The iris was tremulous there was blood in the anterior chamber and there was no perception of light. A fortnight later the vitreous had cleared showing a rupture in the lower half of the disc surrounded by hemorrhage. The literature record shows other cases.

W G REEDER

Fischlign A The Accessory Cavities of the Nose in Connection with the Pathology of the Eye
(Bed t g d Nase b n h o h l n a s s k t i o n e n i n d P t h o l o g i e d e v A g l.) *Med Abt* Berl 9 4 446

By Surg Gynec & Obst

Fischlign expatiates on the great importance of the part played by the nasal accessory sinuses in the pathology of the eye. This is a discovery of the last decade he says, and even now its importance is not appreciated until the prompt cure of a recurrent iridocyclitis is witnessed for example when a suppurating process in an accessory sinus is discovered and cleaned out. Neuritis of the optic nerve may develop from propagation of the suppurative process to the brain directly or indirectly through the meninges. In other cases the trouble is from compression of the orbit eyeball or optic nerve from the enlarged sinus.

The most serious and most common eye trouble secondary to sinusitis is inflammation of the optic nerve. The author has encountered 16 unilateral cases of this kind in 3 cases the ophthalmoscopic findings were normal the neuritis being altogether retrobulbar in origin there were light shades of inflammation in the papilla and in 4 severe intraocular neuritis with choked disc. In 6 of the 14 cases measured there was slight exophthalmos. In 7 cases the pupil was dilated but the reactions were not impaired. In 10 cases vision had been almost entirely lost on that side in 3 the vision was merely central relative scotoma and in 1 absolute scotoma. Only in the severest cases was there restriction of the field of vision especially for colors.

In 11 but 4 cases vision returned nearly or entirely to normal after treatment of the suppurative process in the accessory sinus. In these 4 cases the eye trouble was of from four to fourteen days standing in 2 there was advanced intraocular neuritis in 1 right neuritis in the other 3 the findings were normal.

The sinus trouble ranged from mere catarrh to the severest hypertrophy polyp growths or suppuration in the different cases in only 5 cases was the sinusitis suspected by the patient or physician and in only one of these had its connection with the eye affection been suggested. The blind spot was not enlarged.

in any instance. When both eyes were affected the pupils were widely but irregularly dilated and the reactions were not always quite normal.

The diagnosis is particularly difficult when there is some nervous affection in addition to the sinusitis. Retrobulbar neuritis with central scotoma is by no means uncommon in multiple sclerosis. Sinusitis was found also in 3 cases of brain tumor and one of multiple sclerosis but the eye trouble persisted unmodified after the cure of the sinusitis under treatment. Syphilis was demonstrated in 5 of the total 35 cases of nasal sinusitis in ophthalmological cases. Orthostatic albuminuria, extreme induraria or cardiac defect was evident in one case each. In five cases the amblyopia had been attributed to tobacco poisoning until the sinusitis was discovered.

During the seven-year period in question Elschnig has encountered 208 cases of disease of the optic nerve; the 35 cases with sinusitis, therefore form 15 per cent of the total material.

The prompt subsidence of the neuritis when the sinusitis is treated in time shows that with irritation of the optic nerve there is generally a curable stage. If the toxic and mechanical influences can be removed. Sometimes vision improved immediately as the contents of the sinus was aspirated out.

L. Goss

Batten R. D. Double Detachment of the Retina in a Boy with Albuminuria. *Proc. A. Soc. Med. 1914. 5. 4. Ophth.* 11. 4.

B. S. G. Gynec. & Obst.

Batten reports a case of double retinal detachment in a boy with chronic nephritis. On 3 was operated upon by large scleral resection with temporary improvement of the field.

W. C. Raper

Thompson A. H. Detachment of Retina due to a Band in the Vitreous Following the Extraction of a Piece of Steel. *Proc. A. Soc. Med. 1914. 5. 4. 5. Ophth.* 11. 5. By S. G. Gynec. & Obst.

Thompson reports a case in which a piece of steel entered the eyeball, passing through the cornea and iris. It was removed by giant magnet. A band of exudate could be traced through the vitreous marking the path of the foreign body. Thirteen months later a large detachment developed which he thinks was caused by the body dragging on the retina.

W. C. Raper

Savage G. C. Heterophorias and Their Treatment. *Ophth. Rec. 1914. 11. 55.* By S. G. Gynec. & Obst.

After explaining that the study of muscle has been retarded on account of Helmholtz's error in regard to the poles of the eye, the nature of ocular movements and also on account of the unscientific instruments used, the author explains at length the monocular phorometer, the poles of the eye and the binocular fields, elaborating to a great degree on the different phorias and their treatment according to his theories.

Muscle study has been retarded because of (1) Helmholtz's theory of the poles of the eye, (2) the difficulty of linking Helmholtz's theory with ocular movements, (3) unscientific instruments, binocular phorometers and the Maddox rod are not reliable except for measurement of cyclophoria.

The monocular phorometer stands before one eye and cannot interfere with the retinal image of the other eye. A strong displacing prism throws an image of the test object on the other retina outside the area of possible fusion. The Risley rotary prism moves only the displaced image. It is reversible as it tests the muscle adjustment of either eye and the uncovered eye fixes the object seen by it while the other or false object goes where it may.

The central point of the macula is the posterior pole of the eye and the point on the cornea cut by it is the anterior pole, whether it be the center of the cornea or not. The monocular special pole is on the visual axis somewhere in space and through it pass special meridians each lying in the same plane with the corresponding retinal meridian, the retinal and special meridian having a common center. The direct point of view is at the special pole and its image is on the retinal pole, hence the visual axis is a radius of retinal curvature prolonged. All lines of visual direction are radii of retinal curvature prolonged and the special and retinal meridians are concentric and lie in the same plane.

In eyes of normal muscle tonicity the two special poles are fused together into one binocular special pole by the right rect muscles, the two monocular vertical special meridians are fused into one binocular vertical special meridian by the four obliques, and the monocular special parallel are also fused into binocular special parallels. This is the means of formation of the binocular field of vision. Eyes which are outside the binocular field of vision can carry the point of fixation from the direct to any other point, hence this is practically the binocular field of rotation. All objects lying within the sixth parallel are seen singly with both eyes, those outside are seen with one eye. The binocular field of vision is 60 degrees, the binocular field of view is 80 degrees.

In the binocular field of vision rotation in the horizontal meridian could be accomplished by only the external of one eye and the internus of the other, each receiving a discharge of nervousity from a common brain center. At the vertical meridians the point of fixation must be carried by the harmonious action of the inferior recti and the superior obliques or the superior recti and inferior obliques each pair under the control of its own conjugate brain-center. All oblique rotations are effected by the combined action of three pairs of muscles, each pair under the control of its own brain-center. One muscle of each pair receives supplemental nervousity from individual nerve center belonging to the class of fusso or duction centered and is lateral. Except in

oblique rotations if each muscle is normal in tonicity no fusion center is ever called into action

The field of binocular fusion (retinal) is kite shaped. The horizontal meridian 32 degrees in extent bisects the field in each eye at the macula and the corresponding vertical field is 6 prism degrees. This field could not exist if controlled by conjugate brain centers only because every individual muscle and brain center has neuritic sent it in the interest of binocular fusion. The duction power is much less than the verting power. Fusion-centers in eyes of normal tonicity are always at rest except in oblique rotations. In heterophoric conditions whether the eyes are still or in motion some of the centers are active getting rest only when the eyes are closed. Without this there could be no binocular vision in these cases.

A prism or some other external object such as a cylinder that does throw object outside of fusion field causes one or more fusion centers to become alert at the sacrifice of the binocular spacial pole and meridians. The muscles called into play when an object is displaced by a prism can be determined if the image is not beyond the fusion area and if it is outside it is not to be captured hence there would be diplopia.

The lifting power or tonicity of any rectus muscle both in orthophoria and heterophoria can be tested by the Rusley rotary prism supplemented by a stationary prism. The rotary prism causes the eye to rotate so as to force the macula to accompany the moving image. The moment the image is carried beyond the fusion field the center refuses to act and diplopia results. The Rusley rotary prism can be used in showing orthophoria, esophoria, exophoria, hyperphoria and cataphoria the latter without the use of the accessory prism.

In orthophoria errors of refraction should be corrected in all cases whether sthenic or asthenic. The former can easily maintain binocular field for near or far but the asthenic type although it can control the field for far needs exercises (floor to ceiling etc.) to overcome the muscle fatigue for near.

Pseudo esophoria if caused by hyperopia is curable by lenses. That caused by weak ciliary muscle shown only in the near by minus spheres 0.5 to 0.00 used as exercise. Plus lenses for near when there is neither hyperopia or presbyopia will correct it. The exercise lenses are preferable to the rest lenses.

Intinsic esophoria is readily distinguished from the pseudo. In the low degrees of sthenic or asthenic relief can be obtained by rhythmic exercise of the external and strengthening them so they may balance the too strong internal. The prisms should be base out and not too strong because of the disturbance of mentation. In the higher degrees operation the only resort. In asthenic—low adduction power—weak externals should be shortened so that the orthophoria may be of the sthenic variety and the spacial pole be created for near and far. If tenotomy of the intern is done the distant

binocular pole is created but the eyes cannot maintain the near pole easily. In sthenic esophoria—abduction normal or slightly subnormal—partial tenotomy of the intern should be done and in high degrees the externals advanced.

Pseudo exophoria can exist only in the near and should be treated without operation. If caused by myopia concave lenses should be used for all near work. If it occurs in an emmetropic eye candle exercises should be advised shortening of the intern should never be done unless preceded by a long period of candle exercise.

Intrinsic exophoria is present both in the far and near in the low grades prism exercise of the intern will cure. In the higher grades operation alone can cure whether sthenic or asthenic. The abduction test determines the muscle to be operated on. Under 8 degrees shortening of the intern over 10 degrees tenotomy. Prism in a position of rest for weak intern is of no use.

Hyperphoria and cataphoria are always intrinsic but they may be either sthenic or asthenic. Low degrees may be cured by prism exercises which are rhythmic in high degree the treatment is tenotomy of the superior rectus which is central if no cataphoria exists if it occurs later on partial tenotomy of the inferior rectus should be done. The asthenic type should be corrected by shortening of the inferior rectus.

Cyclophoria is that condition of the obliques which makes the maintenance of binocular spacial meridians difficult. It is intrinsic and may exist in connection with compensating cyclotropia. In plus cyclophoria correcting cylinders will bring great relief but not cure. The weak obliques can have tonicity augmented by exercise as follows: Weak—or—cylinders 0.50 to 1.50 set in frame and revolved 180 degrees of distortion to exercise the obliques. The distortion is gradually increased and the rhythmic raising and lowering of the frame causes them to contract but it should be stopped short of fatigue. Weak cylinders, axes so placed as to rest insufficient obliques are liable to produce artificial astigmatism. Rest cylinders if given should be 0.50 and placed on the arc of distortion of the stronger oblique. Plus cylinders in natural astigmatism can be slightly revolved so as to relieve cyclophoria. The shifting to follow the rules of N. C. Steele.

When cyclophoria complicates exophoria etc. the tenotomies or tuckings can be nasal or temporal usually correcting the condition. Central tenotomies in all other cases, and tuckings or shortenings should be straight forward. SYDNEY WALKER, JR.

McLean W. Do the Tonometers in Use Today Record the True Intra Ocular Tension? *J. Ophth. Otol. & Laryngol.* 9:4 432
By S. G. Gynec. & Obst.

Owing to recent evidence in the clinical manipulation of the Schiotz tonometer McLean constructed a new instrument based upon the same underlying principle but modified in its mechanical details.

No weights are used and the readings in millimeters of mercury are made directly from the scale of the instrument. Consequently there is no possibility of checking the accuracy of any clinical measurement.

In standardizing the instrument measurement were made upon enucleated human and pig eyes connected to a mercury manometer. Interposed between the eye and the manometer was a pulsator—an apparatus to simulate the arterial pulsations. The tonometer recorded exactly the pressure registered by the manometer with out any allowance for the varying rigidity of the outer coats of the eye. Tests carried out upon the Schiötz tonometer by the same methods showed a marked difference in absolute values but an even more marked variation in each reading. Such results with an instrument of precision as the Schiötz tonometer lead one to doubt seriously the accuracy of both method and observer.

—H. S. C. A. M.

Schweinitz (J. d. Ocul. r. Decompress.) in
Cellular Contribution to the Subject of Cor-
neoscleral Trephining in Glaucoma. *Ther. p.*
G. 914. 1917. By rg. (3) 10. 1017.

Dr. Schweinitz points out that a technically correct operation for the relief of increased intraocular pressure is not necessarily followed by improvement, whether it be for the release of the trabeculae or for the lowering of increased intraocular tension.

He describes eighteen cases from his personal experience presenting glaucoma in different types in which the corneoscleral trephining has been performed. The results obtained in each case are commented on the value of trephining in the different types of the disease as in absolute glaucoma.

Absolute glaucoma from intraocular inflammation is not a suitable type for trephining. The trephining in this case is not only useless but also dangerous.

In post-operative glaucoma the results are usually excellent both as regards vision and tension. In this connection it is a mistake to think that there must be non-communication between the junction and the vitreous chamber.

Glaucoma secondary to trauma or inflammation with the swelling of the cataract is usually less successful; results from the trephining are therefore more usual in iridectomy.

Trephining in acute glaucoma is the simplest and most effective method of dealing with the emergency. The results are usually strikingly good.

In ordinary chronic glaucoma the corneoscleral trephining is superior to iridectomy. The vision is usually preserved while in the latter procedure the impairment of vision is hastened. In the case of a very narrow field it has been advocated to follow the Elliot procedure. Chronic glaucoma with exacerbations does not yield well to trephining; iridectomy is to be preferred.

In an exacerbation of tension cases the trephining controls the absolute glaucoma by trepanation.

At last it has been found that exercise will then exercise its influence whereas previously to the operation it had no effect whatever in alleviating the attack. Corneoscleral trephining should be given a trial in all cases of absolute glaucoma even with the faintest trace of slight perception before an eye is considered to be in a situation of Staphyloma of the cornea with high tension and severe myopia may be relieved by this procedure.

In conclusion Dr. Schweinitz states that he has observed that he has not observed a very extensive hemorrhage in the anterior chamber or the entrance of the scleral button. He remarks that has not experienced either an associated or secondary infection following trephining. Neither has he ever observed an intra-ocular hemorrhage or detachment of the choroid as a result of corneoscleral trephining. He has however observed cases develop with marked frequency but they can usually be controlled with mydriatics.

In summary he is of the opinion that trepanation or corneoscleral trephining is not a better operation to treat glaucoma than a technically correct iridectomy but he is absolutely convinced that in ordinary chronic or so-called non-inflammatory glaucoma it is the procedure par excellence even in cases where an iridectomy has failed that it is not a safe method in glaucoma complicated by cataract that in absolute glaucoma the proper procedure is not necessary but in intra-ocular hemorrhage the trephining is the best of the retina and blind lines as a result of this type of trephining.

He concludes that the trephining is a safe procedure in all cases of glaucoma and he hopes that the trephining will be the operation of the future. He remarks that he judges that the results of the operation should not be based simply upon the effects in the intra-ocular tension but most decidedly upon the results in the restoration and improvement of the vision. He urges that more accurate tools be made for the trephining.

—J. F. LANT.

Ziegler (S. b. J. r. Bull. or St. H. t. Keratotomy for Anterior Staphyloma) in *W. J. L. 1917*
1917. By rg. (3) 10. 1017.

Ziegler describes the trephining of the cornea for the correction of anterior staphyloma by means of three or four flaps.

Aspiration is as complete as possible, including the sac. Under cocaine and adrenalin anesthesia an incision is made by passing a Graef knife through the base of the staphyloma with the edge of the knife and cutting out three or four leaf-shaped portions. The remaining edges of the margins are approximated by silk sutures. The primary incision may be with a keratome and the portions removed by means of a pair of iris forceps. The action of cataract lenses may be tried.

HgCl₂ ointment and a cresol compress complete the dressing 0.5 per cent formaldehyde is used whenever infection occurs.

E B FOWLER

EAR

Hirschmann B. Otitis Media and Brain Tumor (Otitis media und Hirntumore) *Ztsch f Oh h* 914 1221 230 By Surg Gy ec & Ob t

The symptoms of brain abscess and brain tumor are so much alike that differential diagnosis is difficult. It is generally made on the basis of the history if there is a source of infection that would probably cause abscess such as otitis media the diagnosis of abscess is made. There are cases however in which otitis media and brain tumor coexist which makes the diagnosis almost impossible. Hirschmann reports two cases from the Heidelberg clinic and collects all the others from the literature those up to 1900 19 in number were previously published. He gives brief abstracts of the cases since then bringing the total number up to 34.

The general symptoms of the two conditions are much alike. In uncomplicated brain tumor there is seldom fever it appeared in 7 of the reported cases but was probably due to the otitis media. Some authors report fever as a constant symptom of brain abscess, but Macewen describes a series of cases in which the temperature was normal or even subnormal. There was slowing of the pulse in only three cases probably due to the fact that otitis quickens the pulse. There was choked disc in about 50 per cent of the cases convulsions in 1 paralysis of the eye muscles in 11. He found no symptoms that are characteristic of brain tumor and do not appear in abscess and concludes that if there is an etiology for brain abscess a certain diagnosis of tumor cannot be made.

Recently roentgen examination has played a part in brain diagnosis. Changes in the skull can be recognized in the roentgen picture such as wearing away of the inner surface thickening of the skull changes in the venous sinuses and sutures that indicate the presence of a chronic process cause increase in pressure such as tumor or hydrocephalus. It is possible that this may be utilized in the differential diagnosis between brain tumor and abscess, although in the author's own two cases the skull was normal.

A Goss

Dougherty D S. Colon Bacillus Infection in Middle Ear Disease *N Y M J* 94 63 By Surg Gy & Ob t

Report are given of twelve patients in whom aural disease was caused by the colon bacillus.

In 3 cases the colon bacillus was found in pure culture and the initial point of entrance of the infection was through the canal wall. In no case in which there was bilateral aural disease the bacillus was in pure culture and the point of entrance in one case was a furuncle.

In one case there was primarily a chronic otitis media with slight staphylococcal infection dormant until lighted up by the virulence of the colon bacillus which was conveyed direct from the rectal abscess.

Otto M. Rorr

Durkee J W: The Prophylaxis and Treatment of Otitis Media in Infectious Diseases. *Lo g* 114 M J 1914 11 470

By Surg Gynec & Obst

Concerning prophylaxis the first step is to keep the nasopharynx as clean as possible by the use of either an atomizer or medicine dropper. The nasal douche is condemned. When the nose is blown both nostrils should be left open.

The next prophylactic measure is to examine the ears daily or at least every other day and not wait until the patient cries or complains of pain.

As regard treatment the drum should be incised at the first appearance of bulging preferably with the patient under a general anesthetic. After the incision the author recommends syringing the ear every two hours using each time a full pint of boric acid or a weak carbolic acid solution. No cotton should be worn in the canal while the ear is discharging. If mastoiditis develops an early operation is advised.

Otto M. Rorr

Zimmermann A. Abderhalden's Diagnostics in the Differential Diagnosis of Intracranial Complications of Ear Diseases (Die Verwendbarkeit des Diälyserverfahrens nach Abderhalden in der Klinik der otogenen intrakraniellen Komplikationen) *Ztsch f Oh h* 94 1221 33

By Surg Gynec & Obst

Zimmermann took up the question of whether a serological differential diagnosis could be made between pathological processes in the brain itself such as abscess and tumor and processes outside the brain such as meningitis extracranial abscess sinus thrombosis and uncomplicated ear disease.

The results of a series of clinical and experimental cases are given in tabulated form. The chief points of surgical interest in the report are that there is always a positive reaction in brain abscess and that the result is negative in otitis or mastoiditis that has not reached the brain.

While it is true that brain abscess always gives a positive reaction it is not true that a positive reaction always indicates brain abscess. A positive reaction tells nothing of the nature of the process affecting the brain. It may be positive in simple encephalitis and also in paralysis epilepsy and all forms of dementia. It is also positive after inhalation anesthesia so that blood for the examinations should be removed before anesthesia is given. A negative result absolutely excludes brain abscess and probably also meningitis for in all cases of meningitis there are probably also encephalic processes. The negative reaction is also of value in excluding cases that have symptoms simulating cerebral involvement.

A Goss

Lake R. Acute Suppuration of the Mastoid and Its Treatment. *Clin Surg* 1905
By Surg. Lynec. & Obst.

The theme of the paper as regards treatment is that in acute mastoid disease operation should be performed at the earliest possible moment.

This course is recommended not only because of the possible dangers to life from the intracranial complications which might occur but because of the damage to the hearing function from allowing the suppurative process to continue too long.

The author considers the symptoms of acute suppurative disease of the mastoid as seen in infancy in childhood in the adult in late adult life and in old age and also mastoid abscess without middle ear suppuration.

As to treatment he advises the Schwarz operation as being by far the best that we have at our disposal and insists that the most essential part of that operation is the enlargement of the *ster ad antrum* to its largest possible extent and this should be done outward and upward leaving the inner and inferior wall of the passages untouched.

After the wound and middle ear have been thoroughly cleansed by the use of an efficient antiseptic solution the author fills up the wound cavity with an iodoform emulsion made with an oily basis. The wound is then lightly plugged with gauze soiled in iodoform emulsion and closed up in the ordinary fashion. The dressing is changed about the third day and after that daily. The external meatus is washed out with 5 per cent carbolic acid every day and after the dressing has once been taken out no further dressing need be inserted but the wound is irrigated first with 5 per cent carbolic acid and then the cavity is filled up with the emulsion when it is allowed to close as soon as possible.

The blood clot dressing is condemned because it becomes infected easily. *Orzo M. Rott*

Holmes F. M. Clinical Classification of Ethmoiditis. *J. Am. Med. Assn.* 1907
By Surg. Lynec. & Obst.

Although it is clinically impossible to satisfactorily classify the pathology of the ethmoid the author divides it into two classes the purulent acute or chronic and the non purulent which may be acute or chronic inflammatory degenerative syphilitic tuberculous or neoplastic. Many acute cases are self limited and result in cure without interference but in order to prevent a weakened resistance a chronic termination all cases should be carefully studied by direct endoscopic examination and radiography.

The author advocates conservative treatment in order to conserve the functions of the nose but in those cases where it is justifiable he advises extensive exenteration. *Ellen J. Patterson*

Wimmer A. Six Operative Cases of Tumor of the Acoustic Nerve (See Title) of operated (10 cases more). *Ill. J. Med.* 1914
By Surg. Lynec. & Obst.

Wimmer reports six operations for tumor of the acoustic nerve the results of which were not very encouraging.

The first patient a woman of 35 died from infection of the wound. She had been deaf on the side of the tumor for several years before other signs of a brain lesion became apparent. No such free interval was apparent in the second case a man of 31 who for 18 months had had headache vertigo, vomiting and other symptoms of brain tumor. Deafness on that side developed suddenly after a few months. He died about six hours after the removal of a large sarcoma.

In the third case there was a free interval of seven years between the initial deafness and the other symptoms of a brain tumor. Intervals of blindness on the side of the tumor was the next symptom. He died the third day after the enucleation of the sarcoma.

The fourth patient referred all his symptoms to the effects of a stroke of lightning in 1908 which had left him paralyzed and deaf on one side but he must have been mistaken in this for it seems improbable that a gliosarcoma could have developed so rapidly in consequence of his having been struck by lightning. The tumor must have been growing at the time and the lightning stroke induced hyperæmia and an apoplectic attack, which subsided as the extravasated blood was absorbed leaving only the symptoms of the brain tumor. He died suddenly five hours after the operation. The fifth patient was a woman of 25 who four years before had suddenly become deaf in the right ear. During the following years disturbances in gait gradually developed and finally vision became impaired and intense pain developed suddenly in the left side of the face. The left side of the tongue felt as if she had burned it and her speech was thick, but there was no headache no vomiting nor psychic torpor as some of the other cases. Other signs confirmed the diagnosis of a tumor involving the acoustic nerve and it was successfully removed. In a sixth case intervention had to be restricted to a decompressive trephining leaving a valve opening which was of great benefit. *A. Goss*

SURGERY OF THE NOSE, THROAT, AND MOUTH

NOSE

Hurley J J : Extracts and Thoughts from a Sinus
Classical Laryngoscope 914 v 909
By Surg Gynec & Obst.

It is the author's opinion if a scientific study of Hajek's classic upon the sinuses was made by American rhinologists there would be more unanimity of opinion in the treatment of sinus disease.

He presents at great length quoting freely from Hajek the anatomy of the lateral nasal wall the development of the ethmoid labyrinth and the significance and diagnosis of pus in the middle meatus.

In a case where pus is found in the middle meatus the author makes his diagnosis by exclusion. He first cleans the middle meatus punctures and washes out the antrum in the presence of negative findings. He proceeds to probe and wash out the frontal sinus after resecting the anterior end of the middle turbinate if the findings are gal gal the diagnosis of pus in the anterior ethmoid sinus.

Shambaugh C F : Pathology of the Ethmoid
Labyrinth J Am M A 15 1914 1311 2100
By Surg Gynec & Obst.

Pathological conditions of the ethmoid are recognized by clinical symptoms.

In the acute catarrhal ethmoiditis impaired ventilation and drainage due to swelling of the mucous membrane give rise to a sense of pressure and fullness between the eyes sneezing and a profuse discharge of mucus into the nose. In acute empyema the profuse discharge of pus into the nose may be associated with much pain due to impaired drainage and in cases which are unrelieved until the bony framework becomes involved the acute condition becomes chronic. Hypertrophic ethmoiditis is recognized by symptoms of an almost continuous head cold associated with sneezing and a profuse watery discharge from the nose.

The chronic atrophic form of ethmoiditis is seen in connection with a general atrophic process in the nose and tertiary syphilis causes extensive bony necrosis.

ILLUSTRATIONS

Instruments necessary for mechanical replacement are a bridge splint two intranasal splints a chisel for intranasal use and a pair of Adams forceps. The first step necessary is to mobilize the entire framework of the nose by means of the chisel and forceps after which the bridge splint is applied. The author's claims for this method are that the form and function of the organ is restored by replacement of its own tissues into their normal positions.

The deficiency in the bony framework for which trans-plantation of bone is used may be due to (1) congenital defects (2) traumatism accidental or operative—submucous perforations (3) atresia of septum (4) destructive diseases such as syphilis lupus and atrophic rhinitis.

The author warns against the use of strong antiseptics because they impair the cellular activity of the bone and the receiving tissues. After the first incision only physiological solution is used.

The transplant is introduced through one of two points: (1) through a curved incision made between the eyebrows or (2) through an incision made from within the nose at a point corresponding to the lower edge of the upper lateral cartilage.

The rib is selected for the transplant and always from the patient into whose nose the bone is to be placed. This is necessary in order that the arrangement of the atoms in the molecule will be the same in both the transplant and the receiving tissues.

The use of several small pieces of bone is preferable to large ones.

Further conclusions reached by the author are: 1. Bone with or without periosteum and free in the soft tissues is osteogenetic and also probably acts in an osteo-inductive capacity.

2. Bone uncovered by periosteum when connected with live periosteum covered bone is osteo-conductive and osteogenetic; the points of greatest growth being where it comes in contact with the periosteum.

3. A periosteum covered transplant in contact with live periosteum covered bone establishes a firm bony union with the latter in three weeks and it continues to live and grow practically unaffected by the change in its environment. The author has as yet noted no overgrowth in such transplants and he believes their development is regulated by the physiological requirements of the part.

4. While the periosteum is not necessary for the preservation of the transplant it certainly adds to its vigor and growth and contributes to the success of the operation. Orro M. Rorr

Blair E. G. Dactylocoelal (Ossaceous and Cartilaginous) Rhinoplasty. *Surg. Gr. & Obs.* 94: 1-8. By S. R. G. & Obs.

The author suggests the following methods for correction of deformities common to the nose:

1. For entire absence of a nose, by primarily splitting the left ring finger anteriorly to widen it, stiffening the distal joint by excision, covering this surface with a skin flap turned back from the right chest wall and again splitting one half this surface and turning it over for the application of a Thiersch graft to make a septum. Incising and lifting freely the entire edge of the nasal circumference to which the finger the nail having been removed is anchored and sutured and maintained by a plaster cast enveloping the head and chest. Later separating the hand from the finger using the proximal phalanx set into the superior maxilla for projection of the nose.

2. For collapsed nasal covering with loss of septum, utilizing two finger joints, the distal passed under the covering for support, the second at right angle for projection. Flaps turned down from inside the covering and up from the nasal floor apposed to the dorsal integument dissected and dropped from the finger furnish denudation and septal formation.

3. For saddle nose, the middle finger is made the carrier of a rib graft. A free end of cartilage is exposed and anchored into the split distal phalanx securing vital contact. Later the graft properly fashioned is passed into the nasal depression through a section of the septum from its covering. After the finger is separated from it the columella and finger end are restored.

THROAT

Fedde B. A. Retropharyngeal Abscess. *Med. R.* 914: 1-1000. By Burg. Gynec. & Obs.

The author reports three cases to show the unsatisfactory clinical course of this condition even when it is recognized early.

Cunningham is quoted to show that infections entering the mucous membrane of the posterior part of the nose or the nasopharynx may cause retropharyngeal lymphadenitis which may develop into abscess. The location of these post-pharyngeal glands are on each side between the pharynx and the rectus anticus major muscle in front of the upper trachea.

Fedde gives the following instructions to palpate this region: Have the child seated in the mother's lap its right side toward you. Stand beside it your left hand flat on its left cheek, pressing the head against your side. Get the mouth open then gently push the cheek between the jaws with your middle finger and introduce the palpating index finger of the right hand rapidly back, exploring the nasopharynx and oropharynx as far down as possible.

The following procedure the author describes as being most satisfactory: the treatment of this condition.

The attendant sits facing me and lays the child's head in my lap. At my right is a good light. The Denhard mouth gag is introduced on the left side and opened while the little finger hooked under the

chin keeps the jaw and with it the hyoid bone and the tongue well forward thus avoiding the sudden asphyxia which authorities speak of and which undoubtedly is caused by the crowding of the hyoid structures upon the swollen pharyngeal wall. The same hand may manage a bent spoon acting as a tongue depressor while the right introduces the bistoury guarded to within one half inch of the point perforating the most prominent part of the abscess then enlarging the incision downward. The head has up to this time been turned partly to the side. As soon as pus wells up the child is turned over completely on its face that the pus may be freely spit out. Later the finger is introduced and any septa present are broken up.

OTTO M. ROTT

Charlton C. C. Retropharyngeal Abscess with Rupture Asphyxiation and Death Following an Acute Attack of Tonsillitis. *L. y. g. c. p.* 1914 xiv 985 By Surg. Gynec. & Obst.

The author reports the case of a child eight years of age who two weeks after a mild attack of acute tonsillitis retired feeling well but upon awakening the next morning felt sick and weak. At four o'clock in the afternoon he was seized with a coughing spell and died from asphyxiation following the spontaneous rupture of a retropharyngeal abscess. The family history was negative for tuberculosis and lues.

ELLEN J. PATTERSON

Unger M. New Direct View Sill R. taining Laryngoscope. *La. s. m. p.* 94 xx 995 By Surg. Gynec. & Obst.

The new instrument consists of a long narrow tongue blade at right angles to the handle to reach from the teeth of the lower jaw to the base of the epiglottis and a long narrow palate blade to reach from the hard palate just back of the teeth to the cervical vertebra near the arytenoid cartilages. The palate blade is fastened at its proximal end to the palate blade-support which lies flat on the handle of the tongue blade upon which it may be made to slide up and down by means of a screw arrangement along its longitudinal axis.

E. L. J. P. TALKER

Smith H. Papilloma of the Larynx. *J. m. v.* 1 941 By Surg. Gynec. & Obst.

Among benign laryngeal growths papilloma is found in from 30 to 50 per cent of all cases and is the most frequent laryngeal growth among children. Single papilloma are usually found anterior giving rise to hoarseness of the voice or hoarseness while multiple papilloma may spring from any part of the laryngeal mucosa producing dyspnea, anoxia and impaired general health.

The treatment consists not in laryngotomy as was formerly practiced but removal of the growth by the direct method with fulguration of the bases, as often as the growths recur or prolonged tracheotomy until the growth disappears sponta-

neously in some cases local applications of radium have produced marvelous results.

ELLEN J. PATTERSON

Yankauer S. An Electrode for Fulgurating the Larynx. *J. s. g. p.* 914 xxi 993 By Surg. Gynec. & Obst.

The electrode consists of a hard rubber tube with metal lining bent to form a handle having at the distal end an opening 1 mm in diameter through the rubber and metal, and a threaded hole in the handle with a piece of metal in electric connection with the metal lining at its bottom through which the conducting cord is carried to the small hole at the distal end. To the end of the handle is attached a rubber tube through which compressed air is delivered to blow out any ether vapor and secretion and to separate the tufts of papilloma. The rubber insulation prevents the tissues coming in contact with the conductor.

ELLEN J. PATTERSON

Skillem R. H. Method of Suspension (Killian) Demonstration of the Latest Form of the Apparatus. *J. Am. M. Ass.* 94 lv 93 By Surg. Gynec. & Obst.

The suspension method is indicated for the removal of intralaryngeal growths hypertrophies foreign bodies in the larynx and mouth of the oesophagus for diagnostic purposes or for curettage of the larynx. The advantages in this method are that the operator seated in a comfortable position has a continuously illuminated direct view of the larynx with plenty of working room for both hands with no danger of the blood or tissue being inspired by the patient.

The author operates in a dark room under ether anesthesia administered by the colonic method with light reflected or direct and with especial care in introducing the spatula to keep it in the median line not to introduce too deeply or to loosen the incisor teeth.

ELLEN J. PATTERSON

Curtis, H. H. Indirect Intralaryngeal Method for Removal of Benign Neoplasms. *J. m. v.* 94 lv 9 By Surg. Gynec. & Obst.

Papillomata and fibromata are the benign growths most frequently found in the larynx though one may find myomata angiomata lipomata cystomata chondromata ingers nodules polypoid pachydermia or sarcoma.

The instruments used for removal of laryngeal growths by the indirect method have not been improved much since 1880 and today the instruments most used are those of Fuchs and McKenzie with modern modifications.

The technique is as follows. The larynx is sprayed with a solution of cocaine 4 per cent and the uvula pillars and posterior pharyngeal wall are to be held and massaged with the same solution on a cotton applicator. The patient holds the tongue with a napkin while an assistant lifts the epiglottis with an L-shaped epiglottis

After the patient's head being steadied by a nurse. The patient is instructed to say A changing to E and then to take a deep breath with complete relaxation and at that instant the forceps are introduced and the growth removed.

ELIE J PATTERSON

Kaempfer L. G. Suspension Laryngoscopy in Ambulatory Patients. *Am J Surg* 914
xx iii 418 By Surg Gynec & Obst

The procedure of suspension laryngoscopy introduced by Killian but little more than two years ago is reviewed and a detailed description of the apparatus given. The advantage over the older method of direct laryngoscopy is that the instrument is steadied and held in position by the adjustable mechanism instead of by the hand of an assistant which often requires much muscular effort and is very fatiguing especially when operating through the speculum.

The author prefers the original type of suspension apparatus devised by Killian and has no difficulty in obtaining a good view of the larynx by this method while he thinks the modifications of Albrecht and Killian himself serve but to complicate the procedure. In describing his technique he insists upon the importance of bringing the tongue forward when introducing the spatula behind the epiglottis in order to avoid side displacement of the former organ. Once in position with the head suspended the anterior commissure is brought into view by simple manipulation of the swinging crane. This has failed in a few cases and the difficulties encountered are the same as in the direct method: short thick neck, rigid muscles, thick tongue and prominent teeth.

The author has made this method a routine one in the examination of patients in the out-patient department and has met few who objected to its employment a second time. Contrary to the usage of Killian no narcotic is given the larynx simply being well cocaineized. The suspensions were undertaken for the most part for diagnostic purposes or for making applications only; minor surgical procedures being carried out since the patients were all sent home directly afterward. There were no untoward results and only occasionally a sore tongue or throat or a stiff neck. The suspension is maintained for only five or ten minutes at a time. The author believes this method has a wide field of usefulness in the treatment of ambulatory patients.

GEORGE M COATES

Ridpath R. F. Routine Use of the Bronchoscope in the Out Patient Department. *La J Soc Surg*
914 xxiv 942 By Surg Gynec & Obst

Although the technique of bronchoscopy is hard to master and requires time, patience and constant practice, Ridpath believes that a more universal use of the bronchoscope for diagnostic and therapeutic purposes might be advantageous.

The technique is as follows: With all clothing

loose around the neck, the patient sits upon a stool fifteen or eighteen inches high, having a concave back to tilt the body forward. The anesthetic cocaine in 20 per cent solution, is applied to the pharynx, epiglottis and larynx in two applications and a third application of a 20 per cent solution of cocaine is made with a Killian tracheal applicator or through an autoscope directly to the trachea. The operator stands directly in front of the patient and using the left forefinger to protect the upper lip the bronchoscope is introduced by sight over the epiglottis through the cords and into the trachea and bronchi.

The author has treated in this way tracheitis, ulcerations and abrasions of the tracheal and bronchial mucosa, catarrhal hypertrophies of the mucosa, bronchial asthma, obscure hemorrhage and stenosis of the trachea and bronchi.

FLENN J PATTERSON

MOUTH

Craig C. B. Peridental Infection as a Causative Factor in Nervous Diseases. *J Am Med Assn*
94 ix 207 By Surg Gynec & Obst

The reasons given by the author why peridental infection is not more disastrous than it is, are (1) that the pus usually has free drainage into the mouth, (2) that the body tissues establish various degrees of immunity against a continuous bacterial intoxication. No portion of the nervous system seems to be especially susceptible to the toxin of peridental infection but the most common manifestation seems to be paresthesia in the fingers and toes, the pins and needles sensation and neuritis of the large nerve trunks has been left up after discharging of alveolar disease. The continual wallowing and absorption of pus often lead to digestive disorders with anemia which exhausted state is often associated with a melancholic state.

The author reports four cases.

1. A distal grade palpitation with associated angina of a mild grade which disappeared after three alveolar abscesses were successfully treated.

2. Persistent periarthritis of the second joint of a right finger which continued for two years when a buccal tooth became tender and an abscess was diagnosed. Upon extraction of the tooth the periarthritis began to disappear and within two months there was a trace left.

3. The patient complained of the pins and needles sensation in her hands and feet with a myositis of the back and calf muscles. These conditions improved under eliminative measures and disappeared after pyorrheic teeth were extracted or cared for. In this case there was also considerable mental irritability which cleared up after the treatment.

4. This patient presented the picture of an agitated depression, was very restless and constantly recalled her losses both financial and death and cried during every conversation. The diagnosis

revealed two abscesses affecting the teeth which supported a bridge. A week after removal of the teeth and drainage the mental cloud began to lift and after two weeks in the country she returned completely cured.

H A Forrs

Gilmer T L and Moody A M A Study of the Bacteriology of Alveolar Abscess and Infected Root Canals *J Am V As* 194 1st 2023
By Surg Gyn & Obst

The impression generally entertained that alveolar abscesses both acute and chronic are due to the staphylococcus albus and aureus seems from the authors study not to be well founded.

In gathering specimens from acute alveolar abscess the field to be incised was thoroughly washed with 50 per cent alcohol and the incision being made a sterile pipette was introduced deeply into the wound and filled the pipette then being sealed and sent to the laboratory.

In chronic abscesses those without sinuses were selected and similar precautions taken for collection. In others the pus was collected direct from the pulp canals of teeth having no carious cavities the teeth being cleansed with alcohol after the rubber dam had been applied then upon drilling into the pulp chamber the pus was collected as it welled up from the canals and sealed in the pipette. In others the pus was collected from the apices of freshly extracted teeth which had been removed under careful aseptic precautions. Specimens were also gathered from septic root canals of teeth recently removed the teeth being enveloped in sterile gauze and crushed in a vise.

In some canals partly gangrenous pulp was found in others necrotic pulp tissue and in still others whose canals had long been imperfectly filled necrotic debris was found.

The series comprises 40 examinations of material taken from 6 acute alveolar abscesses 18 subacute or chronic abscesses and 8 teeth with diseased root-canal. This material was grown on the surface of blood agar and ascites-destrose agar slants at 37 C one tube placed under anaerobic conditions by the addition of pyrogallic acid and a few drops of sodium hydroxide to the tube after the cotton had been pushed about one third of the

distance from the top the tube then being corked and sealed with paraffin. The microscopic examination of the aerobic growth revealed many graded variations of the predominating streptococcus viz from a hemolytic streptococcus with a wide zone of hemolysis in the acute abscess to a streptococcus viridans in the chronic also one in which a streptococcus mucosus was the predominating organism these organisms particularly the green producing streptococci in many instances growing as well anaerobically as they do aerobically. Some anaerobic cultures of streptococci contained the bacillus fusiformis in varying numbers a few tubes having the bacilli in almost pure culture.

Occasionally in the aerobic cultures isolated colonies of staphylococcus aureus or albus micrococcus catarrhalis and some unidentified saprophytic organisms were found.

In three old anaerobic cultures from abscesses a black pigment producing organism was seen this however was not held to be pathogenic.

In three chronic cases autogenous vaccines were made from both aerobic and anaerobic cultures and were administered at five day intervals with strikingly beneficial results.

Attention is called to the occurrence of epidemic alveolar abscesses and to the reasonable supposition that they may bear a definite relationship to the same epidemic diseases of the nose and throat.

A note of warning is sounded lest the removal of teeth be by some too energetically pursued as it is demonstrated that foci of infection about them may be as potent factors in the causation of systemic disease as are the tonsils and some physicians are rather indiscriminate in sending their patients to extraction specialists requiring the removal of several or all teeth when their removal is not all ways justifiable.

The proper interpretation of a properly made roentgenogram will decide the proper course to pursue as some jaw abscesses may be cured by treatment through the tooth's root others by surgical means rather than by extraction.

Pus appearing at the free margin of the gum does not always indicate pyorrhea alveolaris as it may be due to lime deposits, the removal of which permits the gums to heal.

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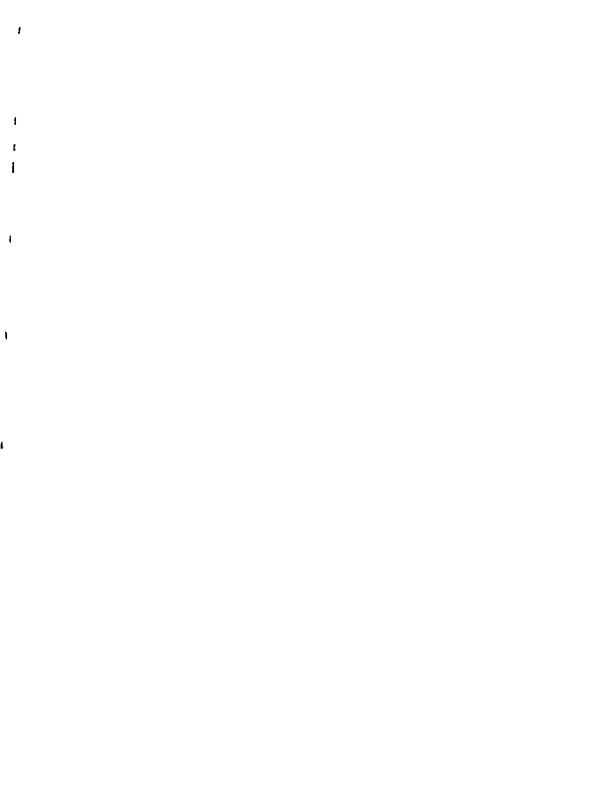


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EDITORIAL ANNOUNCEMENT

Tuberculosis of the Bones and Joints is the subject of the Collective Review to appear in the July issue of THE INTERNATIONAL ABSTRACT OF SURGERY contributed by Dr Henry Ling Taylor of New York

Dr Taylor has reviewed the copious literature on this subject in a painstaking manner and deals with it exhaustively giving his own conclusions from the consensus of opinions set forth by various authorities

The review is especially valuable in that it covers fully the effects which the newer methods of diagnosis and therapy have had in simplifying and clarifying a condition which unfortunately is so prevalent A complete bibliography is appended

Other collective reviews to be published during the next few months are

Mechanism of Fracture	EMMET RYGFORD M D San Francisco
The Relation Between Gynecological and Neurological Disease	RICHARD R SMITH M D Grand Rapids Mich
Tuberculosis of the Genito Urinary Tract	J H CUNNINGHAM JR M D Boston
Cancer of the Mouth	V P BLAIR M D St Louis
A Comparison of the Results of the Conservative and the Surgical Management of Eclampsia	REUBEN PETERSON M D Ann Arbor Mich
Surgery of the Bladder	J BENTLEY SQUIER M D New York
The Use of the High Frequency Current in Treatment of Tumors of the Bladder	HENRY G BUGBEE M D New York
Uterine Hemorrhage	PALMER FINDLEY M D Omaha Neb
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The Surgical Treatment of Tic Douloureux	URBAN MAES M D New Orleans
The Present Status of Radiotherapy	A HOWARD PIERCE M D Montreal
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COLLECTIVE REVIEW

RÖNTGENOLOGY OF GASTRIC CANCER

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THE clinical value of the roentgen ray in the diagnosis of gastric cancer has now become widely recognized. It is nineteen years since Cannon (1) of America first used bismuth substrate in food to study the living stomach of the cat and it is seventeen years since Williams (2)¹ of Boston first used the same salt in sufficient quantity to delineate the human stomach. In this long formative period a large literature on the roentgen examination of the alimentary canal has arisen. A study of this literature makes it evident that roentgenologists feel the need of standardizing the technique and of codifying the interpretation of results.

In this article the usage and opinions of the foremost roentgenologists regarding the diagnosis of gastric cancer will be considered in the following order:

I. Technique

1. Contrast meal
2. Patient—preparation and position
3. Screen and plate procedure

II. Roentgenologic Signs of Gastric Cancer

- A. Anatomical
 - (1) Flexibility of stomach wall
 - (2) Position and size
 - (3) Form
 - (a) Alterations due to wall growth
 - (b) Filling-defects

¹Prof. Rieder of Germany is usually credited with the first practical use of bismuth substrate in quantities which allowed chasical examinations of the human stomach. This honor however belongs to Williams and Cannon of Boston, U.S.A. who in 1896 five years before Rieder's publication used bismuth substrate in large quantity in bread and milk, and conducted the stomach examination in human subjects by screen and plates in both upright and horizontal positions very much as we do today. (See The Roentgen Rays in Medicine and Surgery by Williams New York The Macmillan Co. 1900 pp. 59 to 275.)

- (b) Stenosis
 - (1) At cardia
 - (2) In body—hour glass
 - (3) At pylorus
- (c) Alterations due to adhesions

Physiological

- (a) Filling and unfolding
- (b) Movement
 - (1) Peristalsis
 - (2) Antiperistalsis
- (c) Emptying time—residue

3. Roentgen clinical

- (1) Palpation during roentgen inspection
- (2) Localization of tumor
- (3) Localization of pain or soreness
- (4) Symptom complex

III. Differentiation of signs due to cancer from those due to—

- Gastric ulcer
- Gastric pyrosis
- Gastric tuberculosis
- Benign growths
- Adhesions from disease outside the stomach
- Pseudo filling defects and stenoses due to—
 - (1) Metastasis with stomach
 - (2) Pressure of extra-enteric tumors, etc.
- Spasm
 - (1) Cardiospasm
 - (2) Incisura and spasmodic hour glass
 - (3) Pylorospasm

IV. Stage of cancer at which roentgen signs become observable

V. Reliability of the roentgen diagnosis of gastric cancer

It is to be regretted that so few of the prominent American roentgenologists have contributed to the literature of cancer. This in part is due to the comprehensive character of the contributions which have been made by a few men so

situated that they are able to base their conclusions upon large numbers of cases in which the roentgen diagnoses have been checked up by operation or by autopsy

THE RONTGEN CONTRAST MEAL

As is generally known the stomach cavity is not visible by the roentgen ray unless it is distended with air so as to be less dense than the surrounding tissues or unless it is filled with a contrast mixture which is more dense than the surrounding tissues. The earliest method of the roentgen examination of the stomach was by air distention. This has been revived by Roepcke and Haensch and shown to be the method of choice in certain cases. Haensch (3) of Hamburg gives a striking description of this method.

The inflation of the stomach with air as an aid to roentgen diagnosis is by no means new; it is, on the contrary, the oldest method and was introduced long before that of the bismuth meal being used by Becker, Levy, Dorn, Dubois, Raymond and others in 1897. It never attained any great popularity and soon fell into disuse since previous to the introduction of instantaneous radiography it afforded but little additional information. Recently, however, Roepcke has obtained most admirable results by insufflation with air.

It will be well understood that this method of examination is contra-indicated when there is any danger of bleeding, and should only be used after careful clinical examination and with all possible precautions.

Under these conditions the instantaneous roentgenogram shows the contour of the stomach very clearly. The organ appears somewhat distended, and not noticeably larger than it does when tomically contracted around bismuth meal.

It is however the contrast meal which is the foundation of the roentgen-diagnostics of gastric cancer. Yet there is no recognized standard meal. On the contrary a wide difference of opinion and usage is found in America as well as abroad.

The dense materials which have been most successfully used are bismuth subnitrate, subcarbonate and oxychloride, barium sulphate, zircon oxide, and thorium oxide. The subnitrate was the material used in the famous Reidersche Mahlzeit but has been abandoned on account of the liberation in some cases of the nitrites in harmful quantities. The subcarbonate of bismuth is the most generally employed. The comparative densities according to Kaestle (4) are as follows: 75 gm Kontrastin, about 40 gm thorium oxide, 50 gm bismuth carbonate and 100 gm barium sulphate are equivalent. In Germany zircon oxide is sold under the name of Kontrastin and is highly recommended by Kaestle.

Many writers (5, 6) have objected to bismuth subcarbonate because it is supposed to neutralize the gastric juice and thus alter the stomach chemistry and peristalsis. Barclay (7) before the Royal Society of Medicine, London, 1913, stated in a discussion on Standardization of Bismuth Meals that he was quite sure as an absolute fact that bismuth carbonate did not neutralize gastric juice. After a carbonate meal you could get evolution of CO_2 by giving a dose of sodium bicarbonate.

erally used Rechou (8) gives the following formula which maintains bismuth salts in perfect homogeneous emulsion for more than twenty four hours

Bismuth carbonate 120 gm gum arabic 20 gm gum tragacanth 5 gm syrup simple 150 ccm water 350 ccm

We may sum up the requirements of a rontgen contrast meal as follows

- 1 It must be harmless
- 2 It should be a homogeneous mixture so as to possess a uniform opacity when mixed
- 3 It should be of a fluid consistency to show any filling defect however small so as to pass readily into channels or perforations and so as to follow instantly any small peristaltic or antiperistaltic wave

4 It should hold bismuth salts in suspension long enough to permit observations in the upright position

5 It should be chemically neutral Either an acid or an alkaline reaction may be factors of disturbance in different stomachs impossible to estimate

6 It should not contain any soluble medicinal substance

7 It should be miscible with ordinary stomach contents Stomachs cannot be relied upon to be absolutely empty in the average cases Therefore the contrast salt should not be held too firmly in a curd or jelly or in too permanent an emulsion A partial precipitation of the bismuth or barium favors the accurate delineation of the gastric cavity including the fundus

8 It should not contain oil or fat which often inhibits peristalsis and delays emptying

9 It should not excite disgust or nausea This is disturbing to observation of cardiaspasm and gastric peristalsis

10 It should be quickly preparable and in a form which may be kept always on hand without decomposition

Buttermilk which is so generally used fails to conform to these requirements in four particulars It is acid in reaction it contains fat it holds the contrast salt in curds and in very firm suspension it is disagreeable even repulsive to many patients Potato pap gruels acacia and tragacanth solutions may be made of any designated consistency and strained and may be flavored to suit the taste. The objection to them is that they must be prepared beforehand and may become stale Also the rontgenologist is likely frequently to find himself without his vehicle on hand Cocoa contains an alkaloid dimethylxanthine which is however feeble in action Bread and

milk obviously lack the required homogeneity and are most unsuitable in the rontgen diagnosis of filling defects Water alone or with sugar or flavoring is very satisfactory and much used but it allows of rapid settling of bismuth during observations in the upright position

Malted milk mixed with powdered starch four to one fulfils all the above requirements It may be kept on hand mixed in the dry state so as to permit of rapid preparation whenever needed A heaping tablespoonful of this mixture dissolved in one half pint of boiling water will, after cooling hold three ounces of bismuth sub carbonate or barium sulphate in the proper suspension for X ray work Much of the barium sulphate prepared for X ray purposes is too coarse to remain in any practicable suspension

PREPARATION OF THE PATIENT

For the X ray examination of cancer cases the stomach should be empty if possible In cases where a clinical test breakfast has been administered and the stomach contents have been removed by the tube for analysis the rontgen examination should be delayed for half an hour to allow the patient to recover from the passing of the stomach tube The contrast meal should not be given following any food especially milk which may curd and produce pseudofilling defects Nervous apprehensive patients need encouragement and assurance to permit of a satisfactory examination

POSITION OF THE PATIENT DURING EXAMINATION

The Holzknecht technique has dominated X ray Europe and to a large extent America. In his early work now a classic Holzknecht (9) says

"I have learned the necessity of undertaking the examination not merely in one position of the body and one direction of transillumination but in both hands and in several positions and indeed in the dorsal right and left positions, while the transillumination may be anteroposterior latero or oblique"

Barclay (10) says

"It is at once apparent that posture had a considerable effect on the gastric contents and it became matter of choice whether to examine the patient standing or lying down as the limitation of time prevented routine use of both positions In many cases however both were employed but the horizontal position practically never yielded a satisfactory formation that had not already been obtained in the usual abandoned except for post-operative cases here the patient was too weak to stand and it was necessary to determine by what route the food left the stomach For the purpose of horizontal position sufficed, but it is not capable of yielding reliable data to the stomach walls for this reason I think

it futile to attempt ordinary X ray diagnosis unless the patient can be examined in the upright position. Another point that determined the use of this posture was the fact that it is the usual position during digestion and it is while this process is going on that the X ray examination is made.

The best view of the stomach is obtained with the abdomen against the screen but in certain cases it was found that the pyloric portion seemed to turn somewhat backward and its shadow was thus foreshortened but by rotating the patient slightly this portion came into full view. The pylorus itself is the most difficult portion to see clearly not only on account of the small quantity of food that it usually contains, but also because of the superimposed shadow of the vertebral column.

Cole (12) does his serial work with the patient prone. He devised a table with a depression for the abdomen. This device to prevent deformity of outline due to pressure has been widely used in America.

When the patient lies upon his back the fundus and pars media may be well filled observed and palpated. But the antrum pyloric the pylorus and the duodenal bulb cannot be studied in this position as a rule excepting as they are filled by the palpating hand or spoon. This is the position however for comparison with the physical findings of the internist.

SCREEN AND PLATE PROCEDURES

The screen should not be mentioned without a warning against the dangers to the operators of X ray effects. The ordinary means of protection in general use secure perfect safety to the patient but the introduction of new and more powerful apparatus necessitates redoubled precautions on the part of roentgenologists who work daily before the screen.

The open fluoroscope is the moving picture screen of clinical diagnosis. Each pulse of the current through the tube throws an image on the screen. The succession of images is so rapid that the resulting picture has absolute freedom from flickering. It is an advantage in screen work to have the slowest rate of current interruption that gives a continuous image to the eye. This improves sharpness of outline in the moving image because it eliminates the slight phosphorescent lag which is present in most screens and which tends to give a slightly blurred composite image. The detection of delicate antiperistaltic stomach waves in cases of pyloric growths is facilitated by slower rates of interruption. Also slower pulses reduce the quantity of X rays passing through the patient and allow increased time for screen observation without exceeding the limits of safety.

Holzknacht (12) the great master of screen

technique has lately recommended the use of a metal cylinder about 3 inches in diameter and 6 inches long. He says

This tube is attached to the fluorescent screen and interposed between the patient and the screen. For radioscopic purposes it does not need a perfectly contrasted picture of the whole region. For general view the ordinary radioscopic image is quite sufficient, so long as we can get a clear and well defined picture of the limited region under suspicion and for this purpose the Bucky diaphragm may be moved from place to place over the whole region under examination.

It is obvious that when the compressor is in use the increased distance between the object and the screen will cause some magnification of the radioscopic image. This magnification however is rather an advantage than the reverse as it is only used to determine minute details.

The complete effect of the new method most striking. The cleared indifferent shadows, which had to be scrutinized with the greatest care give place to black and white pictures rich in details, which are clearly visible and are not troubled with difficulty all their minute.

While this device improves screen definition the plate is still uncontestedly superior for detail. American roentgenologists regularly take a certain number of plates following or during the screen examination.

The cinematographic plate series, whether or not reduced to a film is the only rival of the screen. The superior detail of the plates can be studied with painstaking repetition which is impossible with screens and diaphragms. The expense of the cinematographic process and the delay in getting reports has retarded a recognition of its value. Also palpation and the localization of tumors or pressure-pains which is a part of a screen examination are impossible for serial plates.

Cole (13) has brought the serial plate method to perfection and has made the cinematographic film a practical means of diagnosis in his own office. He says

The more extensive growths may be detected readily by roentgenography (fluorography) or by a three roentgenogram. But the negative or positive diagnosis of small indurated ulcers or early carcinoma necessitates careful study of several series of roentgenograms made with the patient both the prone and erect postures and at various intervals after the ingestion of barium and bismuth. There is no content with less than 40 roentgenograms and frequently more than 70 or 80, each set up here they may be studied individually and collectively and superimposed for comparison. If expedient, they are reduced in size and reproduced cinematographically. The examination is necessarily a very tedious one but the surgery may be placed within the means of all patients.

Cole's brilliant work in the successful demonstration of small ulcers and early carcinoma has turned the serious attention of roentgenologists to the serial plate method. The time and ex-

pense of exposing developing and examining from 40 to 80 plates of a single case formed with very few exceptions an effectual bar to adoption of this method. Kaestle (14) made 16 exposures on one plate. But it remained for Lurie of Montreal to demonstrate Kaestle's procedure by means of a simple apparatus of his own design so as to utilize the essential feature of Cole's method and yet avoid the prohibitive features of time and expense.

Pine's method consists in making from 6 to 16 separate exposures on a single plate. It is possible to obtain a series both cinematographic and stereoscopic of 16 views and yet have but one plate to handle develop and fix. Two 4x17 plates would thus give 32 views. Pine (15) own description is as follows:

When thetrum pylori has been fixed and the tractions remain clearly on wait till the distal part of the contraction is well in the place. Then it is once slid into position and the 16 exposures are made on it another about 3 seconds. I order to get the film fitted neatly on the large plate there are two metal rods at right angles to each other with notches at the ends apart on the one end 4.25 inches apart on the other. By making these notches engage the plate in the film up the exposure position required for each view. The movement takes half a second. At the exposure 1/5 second is the apparatus at my command not being able to do its work even with an intensifying screen. The apparatus operated from the lens of a protective cabinet.

The apparatus is a modification of that used by Col for serial radiography. It has proved of great value in the diagnosis of duodenal ulcer pyloric stenosis pyloric carcinoma gall tones gastric and duodenal lesions.

Potter (41) has devised a practicable and wonderfully compact instrument for making a series of exposures on a film with the patient standing. The device is described in his own words as follows:

This instrument, which I call a pylorograph designed to make longer or shorter series of diaphragms of limited field of the stomach following a fluoroscopic examination. A film 6 inches wide is used each exposure being 6 by 6 inches. The instrument which is 20 by 9 by 5 inches in size is arranged on a stand and held in front of the patient. The necessary shift of film and intensifying screen is made by hand by the operator standing to the side of the patient. One simple push of a member actuates the film advance and the screen withdraws. The reciprocal motion places the screen again in contact. To obtain the particular field desired for this series of fluoroscopic screens is made on the back of the instrument which allows one to spot the given area behind. A sensitive meter with operates the transformer current through push buttons the left hand of the operator giving any desired duration and interval.

Such an instrument as this brings serial roentgenography within the scope of daily practice.

In marked contrast to the Potter and Pine procedures is that recommended by Lockwood. Practitioners are more likely to form their ideas from Lockwood's splendid work on Diseases of the Stomach than from roentgenological monographs. Lockwood's preface would lead one to believe that his views were also those of Learning. Lockwood (16) says:

I follow the teachings of Holzknecht and Haudel. The author recommends the following as a routine technique in all stomach examinations. The patient is first prepared by a thorough catharsis preferably by castor oil given tonight. The following morning at prearranged hour the patient takes a Kieder meal of 8 ounces of oatmeal gruel. This is thoroughly mixed, ounces of bismuth carbonate or bismuth subnitrate added from a receptacle so that the drug is pure can be obtained. A light breakfast of tea and toast may be given one hour later. The patient is to be at the radiologist's office five or six half hours after taking the Kieder meal so that the first diaphragm may be taken exactly six hours after the ingestion of the bismuth. This plate will show the motility of the stomach and the location of the head of the bismuth column in the ileum or colon. A second bismuth meal composed of bismuth subcarbonate or oxychloride 15 ounces, gum acacia mucilage 2 ounces (33 per cent gum) and water sufficient to make 8 ounces, is then given and a second radiograph immediately made. Which, in its turn will show the size shape and position of the stomach. There now in the two plates as rule sufficient radiological data combined with the history clinical findings and appearance of the patient to make diagnosis of the case. Occasionally a third radiograph may be taken fifteen minutes after the second as a control to see the motility of the pylorus and the first part of the duodenum. Sometimes in cases of hypermotility it is well to radiograph the patient three hours after the ingestion of bismuth. The patient is radiographed standing although additional plates may be taken in the recumbent position if desired.

Barclay (17) represents an English view. He states:

Radiographs are of comparatively little use except for demonstrative purposes as they represent the picture at one particular moment only and give little indication as to how the stomach receives the food, etc. Radiographs are therefore expensive and many cases an unnecessary series except for demonstrative purposes, but a good radiogram of the pars pylorica will reveal more detail than can be made out on the screen.

Carman (18) describes the procedure at the Mayo clinic:

Having taken an ounce of castor oil the evening before the patient reports in the morning without breakfast. He is then given an ordinary portion of wheat meal porridge to which two ounces of barium sulphate have been well mixed, together with a little sugar and cream. He is directed to abstain from further food until after the examination and to return six hours later. On his return he is stripped down to the hips the screen is placed against the abdomen and the presence or absence of residue in the stomach from the morning meal noted.

Next the head of the barium column that is to say the most advanced position of the testine of the six hours meal is determined. Commonly this will be in the cecum.

Diminution of the stomach comes with prolonged food and stenosis of the esophagus. One finds hunger and malnutrition region—no mesenteric lymphatic nodes. The stomach is small and the pylorus is dilated. The consequence of prolonged small food and dilatation as a result of malnutrition by the stomach is the dilatation of the stomach.

The pylorus of the stomach is dilated—for the most part the body and pyloric region—no mesenteric lymphatic nodes. The stomach is small and the pylorus is dilated. The consequence of prolonged small food and dilatation as a result of malnutrition by the stomach is the dilatation of the stomach.

To Kaestle's list may be added prolonged alcoholism as a cause of contracted stomach with thickened wall cited by Cole.

Diminution in the size of the stomach due to obstruction at the cardia and dilatation due to obstruction at the pylorus will be considered under the head of stenosis.

FILLING DEFECTS

Irregularities in the form of the gastric silhouette due to wall growth constitute the cardinal signs of medullary cancer of the stomach. Any growth which projects into the stomach cavity will indent the outline of the opaque stomach contents also any ulcerated process which erodes the inner surface of the stomach or which forms scar tissue will cause protrusion from the silhouette or contractures of the outlines. This is the meaning of the term filling defect.

It is evident from the foregoing section that scirrhus rarely shows a filling defect. Similar deformities in the gastric outlines resulting from causes other than growths or ulceration of the stomach wall are considered as pseudo-filling defects. These constitute the major problems of differential roentgen diagnosis.

Overwhelming emphasis is laid upon the filling defect by most authors.

Barclay (17) says: Apart from pyloric obstruction the diagnosis of carcinoma depends upon the irregularities caused by the inroads of the growth.

Carman (21) says: The filling defect is a sign of cardinal import and practically indispensable in the roentgen ray diagnosis of carcinoma.

Cole (13) says: The roentgenological diagnosis of new growths of the stomach is based on permanent constant deformities in the gastric wall which interfere with the systole and diastole of the stomach and the progression pylorusward of the peristalsis.

White and Leonard (22) say: The most important evidence is a constant defect in the outline of the stomach on filling it with bismuth. In the very earliest cases this is due to a slight local thickening with disturbed peristalsis and is hard

or impossible to recognize as cancer. In later cases the defect is irregular in outline and of any size and looks like a jagged bite out of the stomach shadow.

A filling defect produces symptoms according to its location. At the cardiac orifice it usually produces some degree of stenosis with dilatation of the esophagus and its attendant symptoms. At the pylorus it produces stenosis with signs of obstruction or it produces stenosis with rigidity of the pylorus so that the signs are not those of obstruction but of patency. In the pars media the filling defect on the greater curvature if sufficiently large produces organic hour glass. On the lesser curvature the filling defect may simulate callous ulcer. On any portion of the stomach the filling defect is likely to be associated with adhesions to adjacent viscera.

When an apparent filling-defect is discovered in a case its constancy of occurrence and form are best determined by observations on several different days. The peristaltic wave will die out on reaching a filling defect to reappear beyond. If the filling defect is located at the pylorus antiperistaltic waves may be seen.

Serial plates covering different phases of several different stomach cycles find here their greatest usefulness (Cole). The accurate repetition of delicate irregularities of forms in a cycle series may enable the roentgenologist to identify a true filling-defect that otherwise would have escaped detection or would have been too small for positive conclusions by other methods. Cole (23) has repeatedly demonstrated the delicate precision of the serial method which is associated with his name. White and Leonard (22) report a brilliant example of this method in the hands of Arnel George.

A man of 60 years had mild attack of epigastric distress and vomiting for several years. Physical examination was practically negative. Gastric secretion normal. No blood was found in the gastric content or faeces. There was slight hour-glass stasis. A diagnosis of cancer made after X-ray examination on the basis of a very small filling defect in the pylorus which was slight but definite irregularity and resection required. The surgical diagnosis of operation was chronic inflammation but resection was done. The pathologist's report of gross examination was the same but cancer was found on microscopic examination. Within six months the radiologist thought of the mistake of the correct diagnosis and the result are confirmed by later series of cases which will prove of great value. We do not feel sure however that such X-ray evidence is always diagnostic of cancer from ulcer.

Pseudo-filling defects due to material within the stomach such as unmasterated food milk-curd and foreign bodies need only to be men-



seen cases of carcinoma complicated by cardiospasm and one case of hour glass stomach due to syphilis with second ary cardiospasm. Esophagitis and ulcer of the esophageal wall not in close proximity to the cardia are to be looked on as secondary to cardiospasm and dilatation not as primary factors. In the majority of cases however no such possible etiologic factors are to be found. Cardiospasm is not often present in inflammatory conditions of the esophagus which come under observation. Evidence of esophagitis previous to the onset of the cardiospasm could not be elicited from any of the cases. With three exceptions, none of the forty cases reported had neurosathemic symptoms.

The facility with which cardiospasm may be detected and studied by the X rays promises to clear up its relations to gastric carcinoma.

Stenosis at the cardia whether organic or spasmodic, should be looked for in cases of small stomachs. Similarly in cases of a dilated stomach look for stenosis at the pylorus.

To examine the pyloric region rotate the patient either in the upright or horizontal posture so that the pyloric ring is either to the right or left of the spinal column. Usually stenosis may be at once excluded by seeing the contrast meal pass at intervals through a widened pylorus. If the peristaltic movements are sluggish the contrast meal may be pushed through into the duodenal cap by palpation.

As in the case of cardiac stenosis so pyloric stenosis is made evident by narrowing lengthening winding course and constant deformity. The characteristic stenosis peristalsis will be considered under the head of stomach movements.

Much more frequent than cardiospasm is pylorospasm. This sign is a strong hint to look beyond the stomach for the focus of disease. But if no extraventricular focus can be found then it must be remembered that the reflex cause of the pylorospasm may lie within the stomach. It may be the first sign of a mucous membrane erosion anywhere in the stomach. Kaestle (4) is specific on this point.

A tonic spasm of the ring musculature of the stomach is called pylorospasm. This can be produced reflexly by the passage of abnormally acid chyme into the duodenum. Thus it can be a symptom of hyperacidity. This is as is known frequently the cause or effect of ulcer or erosion of the mucous membrane somewhere in the stomach. So reflex pylorospasm may occasionally be an indirect indication of gastric ulcer without localizing it. A mucous membrane erosion of the pylorus itself can produce spasm as a consequence of local irritation of the nerve elements of the region in question. In this pylorospasm becomes direct expression of gastric ulcer or gastric cancer.

FILLING AND UNFOLDING

The filling and unfolding of the normal stomach as seen by the roentgenologist on the screen while the patient in the standing position drinks

a contrast fluid is illustrated and described with great care by Groedel. The first few swallows of contrast liquid are normally held up for a few seconds in the form of an inverted cone by a contraction of the pars media. A partial relaxation then converts the middle third or pars media into a narrow channel allowing the contrast meal to flow rather than drop into the antrum. This conversion of the pars media into a channel is the canalization phenomenon so frequently mentioned in roentgenological literature.

According to Groedel (10) the filling process is more or less distinctive in hypersecretion with hyperacidity in achylia in atonic dilatation in mechanical dilatation in stomach wall changes in adhesions, in hour glass contraction and in stomach tumors. The canalization is therefore a factor in the differential diagnosis of gastric cancer.

MOVEMENTS

The peristaltic movements of the stomach play an important part in the recognition of cancer particularly in the early stages. The absence of peristalsis in an involved area of the stomach wall during the time when peristaltic waves are passing towards the pylorus is the essential point. A stomach wall infiltration too small to give a filling defect may be detected by this means. Scirrhus infiltration of a large part of the stomach may exist without filling defect in which case the absence of peristalsis may be a deciding factor.

Peristalsis is an important means of excluding cancer. If normal peristaltic waves can be seen following one another to the pylorus and passing chyme into the cap then no stomach wall affection exists in the motor area. The motor area however does not extend above the pars media as a rule and often not above the antrum although it may exceptionally begin in the fundus as shown by Case (27).

The purpose of stomach peristalsis (1) to mix the stomach contents with gastric juice promoting food solution and (2) to assist in emptying the stomach. This latter function is subservient to the pyloric muscle the keeper of the gate (Cannon 1). The chemical reaction of the stomach contents is an important factor. In achylia the pylorus opens readily and stomach emptying is rapid without marked peristalsis. In hyperacidity the pylorus does not open readily and in severe cases remains closed by spasm for hours. But peristalsis is markedly increased for a time unless ulcer is present in which case peristalsis may be partially suppressed. In cases of duodenal irritation or duodenal ulcer

1) Section for all of them is the same and one can be different from the other only by careful microscopic examination of the specimen after its removal.

Late ulcer and early cancer are inextricably bound together. Holding (38) in his latest article provides a place for the transitional form of ulcer. Wil on (39) of the Mayo Clinic assisted by McDowell in a current article maintains his original conclusions on the development of gastric cancer from ulcer. Three hundred and ninety-nine cases of gastric cancer have been worked up pathologically with extraordinary thoroughness and the following conclusions drawn:

It seems probable from a careful study of the clinical and pathological evidence of this series that the ligament is a rare lesion except in the case of previous ulnar lesion of the metacarpal.

It is evident that in a small per cent of cases a differential diagnosis between ulcer and cancer is impossible by the X ray or by any method whatever. Nevertheless in an unquestionable majority of cases a differentiation is possible. Holdmg (28) summarizes as follows:

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in the future may be over much more than is now

h rly lokai! pr point Pa d fuser j pt t
h ch mosev ernahron wdy h free l
re p son l h d rec and
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Adhesions causing filling defects and stenosis are often difficult to identify. Palpations and changing positions of the patient are the main

Adhesion in some cases gave rise to indentations that were mistaken for carcinoma and in one case a pur-

For the diagnosis of lesions we have to depend on the fact that under normal conditions it is possible to manipulate the stomach through the abdominal wall. It determines more or less accurately the size and the nature of the

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Case (32) illustrates one method of turning the patient as follows

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possibly bring out the full tail of the pyloroduodenal region often better and large than with the present

the pron position plate anterior Unless the pyloric carcinoma has pervened upon a old stenosing ulcer it is likely that the stomach will not be greatly dilated in pyloric cancer for the reason that the malignant process has advanced too rapidly to permit extensive dilatation. In benign ulcerous stenosis, on the other hand, closing those cases where the ulcer has late degenerated into malignancy the long dilatation of the process permits enormous crease; the size of the stomach.

Adhesions from diseased organs outside of the stomach may deform the gastric silhouette and simulate filling defects or even hour glass contractions. One of the 72 gastro-intestinal plates exhibited by the writer in 1909 at the sixtieth annual session of the American Medical Association showed an hour glass stomach with extensive filling defects. The diagnosis of cancer of the stomach was made. At the autopsy the stomach was found bound down by numerous adhesions resulting from a cancer of the pancreas. No cancer of the stomach existed yet there was in this case cancer cachexia, cancer pain, filling defects and hour glass which was not spasmodic.

The hour glass stomach may be placed under the head of adhesions, cancer ulcer or spasm. In it are united most of the phases of a differential diagnosis. Kaestle's (4) description of the hour glass from incisura is striking.

On the side of the lesser curvature, not the long pouch of the stomach, lies the narrow place of the spasmodic hour glass stomach. The contraction is indicated from the greater curvature and the tip of the contraction point is like a finger to the diseased place on the stomach wall. That long end ring tumor pain in the stomach can occur without ulcer is question. The carcinomatous hour glass stomach is differentiated roentgenologically from the ulcer hour glass stomach by the smooth edges and sharp limits of the narrow hour glass carcinoma. The long end ring tumor contraction is less clearly defined.

Case (12) describes a spasmodic hour glass resulting from a reflex incisura in cases of duodenal or gall bladder disease. Barclay (17) has given hour-glass contraction much attention. According to him:

Quite a large number of spasmodic hour glass stomachs have been examined and found to operate in how no trace of ulceration or other abnormality. The local action could cause the spasm (p. 64). Hour glass contraction is frequently noted when there is severe constipation (p. 65).

Spasmodic contractions complicate differential roentgen-diagnosis at many points, some of which have already been discussed. A further quotation from Barclay (17) may serve as a caution against premature opinions:

I have seen pyloric obstruction and led by seeing the greater part of the food till the stomach is full, hours, permanently and by removal of bad teeth.

In an article on "The Stomach as a Reflex Organ" Crane (40) states:

The stomach as a reflex organ responds to many pathological foci within the body. The most important of these concern the appendix, the gall bladder, the bile ducts, and the duodenum. Also, bacera of liver, constipation, toxæmia, and women's gynecologic and obstetric lesions bring about marked gastric disturbances.

STAGE OF CANCER AT WHICH RÖNTGEN SIGNS BECOME OBSERVABLE

In scirrhus carcinoma the earliest roentgenologic sign is a local arrest of the peristaltic wave by a wall infiltration. The peristaltic wave may be resumed beyond the lesion unless it lies too close to the pylorus, as is usually the case. This wall infiltration must be sufficiently extensive to show on palpation a loss of wall-flexibility in order to support the sign of peristaltic arrest. If the scirrhus begins in the pylorus, the rigidity and permanent patency of the pyloric orifice may be an earlier sign.

In medullary carcinoma a filling defect must be considered as the earliest definite sign. This, however, may be very small and yet identified with certainty by the serial plate method. The definite roentgen signs of medullary carcinoma are earlier than those of scirrhus.

Most of the patients with gastric cancer which seem by case history and clinical examination to be in the early stages when examined by the X-ray prove to be well developed cases.

White and Leonard (22) answer the question conservatively but fairly:

For early diagnosis of cancer in the patient early.

What brings the patient for examination? If symptoms which will not see him till he develops some. These early symptoms and signs of cancer are often the most important question. Are the early anatomical changes gastric cancer discoverable by X-ray more definitely?

White and Leonard (22) answer the question conservatively but fairly:

This is a difficult question. In the early stages of cancer the anatomical changes are often so slight that they are not discoverable by X-ray.

What brings the patient for examination? If symptoms which will not see him till he develops some. These early symptoms and signs of cancer are often the most important question. Are the early anatomical changes gastric cancer discoverable by X-ray more definitely?

White and Leonard (22) answer the question conservatively but fairly:

For early diagnosis of cancer in the patient early.

Most of the test money on this point is incompetent, irrelevant and immaterial. No one can doubt that many mistakes have been

RELIABILITY OF THE RÖNTGEN SIGNS OF STAGE (CANCER)

revealed by operation. Röntgenologic competency has been gained in this way. Doubtless many mistakes will continue to be made for the same reasons that other diagnostic mistakes are made. But the röntgenology of gastric cancer has been developed to a point where such errors are rare when the röntgenologist takes care not to draw conclusions beyond his premises.

Case (32) testifies as follows

The writer would not presume to state that carcinoma of the stomach could or exist. I am too small for detection by carefully conducted röntgenographic search but he will place on record the statement that to the present moment since the time he was fitted by equipment and experience to make these thorough studies, not a single case of carcinoma of the stomach to his knowledge has been revealed at operation where previous röntgen examination had failed to show organic lesion.

Cole (13) gives similar testimony

A negative or positive diagnosis of gastric cancer has been made in each of the 66 cases examined by means of serial röntgenography and not a single case to my knowledge where I have made a negative diagnosis of gastric cancer or indurated gastric ulcer has surgery or autopsy proved the existence of a lesion nor has surgery or autopsy failed to reveal definite organic lesion equating surgical procedure in any case where positive diagnosis of carcinoma or indurated ulcer has been made.

Six hundred and sixteen cases have been examined by serial röntgenography. Ninety-seven cases have been operated on. In ninety-four of the cases the röntgenologic diagnosis was proved by the correct results of the surgical findings were more or less in accordance with the röntgenological findings.

Carman (21) is able to state that

In enumerating the signs and symptoms of (Wm M.) J. J. has placed first the presence of palpable tumor. 67 per cent food remains 53 per cent and third the röntgen ray.

The work of the last few months of the M. Clinic in the röntgen ray has consisted of a large showing of the order of importance of these signs and the röntgen ray showing diagnostic signs in 93 per cent of the cases. This is a very encouraging result which means earlier diagnosis with less interference and higher percentage of cures.

White (22) as an internist gives a summary of the work of himself and Leonard which may be considered as a just estimate of the present value of röntgenology in gastric cancer.

X-ray evidence has been valuable in helping to rule out cancer in long list of suspicious cases. In no case where a formal test of the stomach was found has cancer been proved to exist.

X-ray evidence has its limitations. After all examinations doubtful group remained about twice as large as the group of latent cases discovered. These were cases of disease of the cardia or where the diagnosis lay between cancer, ulcer or syphilis.

I suspect of these limitations and errors the X-ray evidence has distinctly improved our diagnosis. In 34 operated cases the correct diagnosis before X-ray examination was 83 per cent. After X-ray 80 per cent. It is almost needless to say that when studied the X-ray findings in connection with the other clinical data will have not

attempted to build a diagnosis on X-ray data alone. This addition of the X-ray method to our other examinations gives an accuracy and completeness to our diagnosis impossible with either alone.

In addition to aiding diagnosis, the X-ray evidence has definitely located the cancer shown its size and extent and helped decide about operability. It may show that a cancer with marked symptoms is small and mobile and ideal for operation.

I suspect, the X-ray evidence has been a help in discovering and localizing latent cancer and an equal help in ruling out cancer. Our known mistakes have been few and the group of doubtful cases rather small and it seems reasonable to expect that with better technique and greater experience less mistakes will occur and less cases remain doubtful. I think with more early and frequent X-ray examinations of patients of cancer age that early diagnosis will be more frequently made and latent cases discovered earlier so that radical operation will be possible.

In conclusion it may be said that the röntgenology of the gastro-intestinal tract has been brought to a precision which entitles it to rank with the most approved clinical methods. Success in this field requires a kind of training and experience which may not always be possessed by highly competent surgeons and internists. The röntgenologist is needed as a consultant and he in turn needs the assistance of his confrères. The diagnostic concept of the present day demands a survey of the entire case with a detail map of the gastro-intestinal tract for either a medical or a surgical campaign.

NOTE—I am indebted to my wife Carol E. H. Rüttel for translations from the German. Also I am indebted to Drs. Hulst, Hickey, Potte, and C. Seifert for generous aid in obtaining the literature of this subject.

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ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

ANÆSTHETICS

Kelm & F. Scopolamine Morphine and Scopolamine Pantopon Anaesthesia in Conjunction with Inhalation Anaesthesia (Die Skopolamin Morphine und die Skopolamin Pantopon Kombination bei Inhalationsanästhetik) II
Kl R ds ka 19 4 \ 32

By Surg Gynec & Obst

The authors conclusions in regard to combination of scopolamine morphine and scopolamine pantopon anaesthesia with inhalation anaesthesia may be summed up somewhat as follows

1 Every anaesthetic is to some degree dangerous to life especially if it is a prolonged deep narcosis

2 The most dangerous seem to be the inhalation anaesthetics and of these chloroform is the most dangerous

3 The least dangerous are the mixed narcotics. In these relatively the least amount of anesthetic is required and according to Burge narcotic mixtures do not hold the combined actions but rather effect a potentiating action

4 Injection narcosis with scopolamine morphine or scopolamine pantopon in big doses is likewise dangerous to life

5 As it is only rarely possible to obtain complete anaesthesia with the injection of narcotics it is advisable to support it with ether gas by the drop method

6 A moderate dose of narcotic by injection and a careful administration of ether gas is a certain amount of safety and decreases the dangers of this method especially of sudden death in minimum

7 The advantages of scopolamine morphine and scopolamine pantopon anaesthesia are particularly the absence of physical tension before and after the operation the minimum danger of the anesthetic during the operation the almost complete loss of pain the possibility of laagerschmerz and the hemodynamic pressure wound pressure in addition the postoperative twilight period in minutes are in line with the general

8 The scopolamine morphine and scopolamine pantopon anaesthesia has no contraindications

9 Scopolamine pantopon is the preferred combination for morphine and ether. It is

advantages are troublesome thirst and the danger of apnoea

10 The decrease of the circulatory volume after the method of von Brunn does not seem to have any advantages as a decreased amount of ether is required

11 A pure stable preparation is necessary for success

12 The injection inhalation anaesthesia appears to be the most humane of all anaesthetics so long as it is impossible to approach Kocher's ideal which requires the most complete anaesthesia possible for each individual part of the human body to be operated upon
L A JCHNAE

Gfroerer Experiences with Lumbar Anaesthesia (Erfahrungen mit Lumbalanästhetik) Münch med Wk 19 4 \ 36

By Surg Gynec & Obst

Spinal anaesthesia was taken up at the Würzburg clinic in 1907 and since that time it has been employed in 1223 cases. By employing tropacocaine as the anaesthetic and morphine scopolamine before the anaesthetic results have been much improved complete failures have been rare and the number of cases in which the anaesthesia lasted over 45 minutes has increased. Under a carefully developed technique the number of cases in which the anaesthesia lasted until the end of the operation was increased 434 per cent

The technique consists in the use of 5 per cent tropacocaine in a 6 per cent sodium chloride solution as the spinal anaesthetic and is preceded by one injection of 6 to 8 ccm of a solution of 0.1 morphine and 0.003 scopolamine. The higher grades of excitement observed with larger doses of scopolamine were not seen. The most frequent disturbances during the operation were choking spells and vomiting. Severe complications during the operation were observed 9 times in 4 of these a severe collapse occurred and in one instance the collapse was accompanied by an ascending paralysis of the thorax musculature. No deaths occurred. Among the post-operative disturbances headaches were most frequent but these were present only in a percentage of cases. Two cases of abdominal pain which appeared were attributable to the postoperative anaesthesia

The author recommends the method highly

Siegel P W The Paravertebral Injection Anesthesia (Die paravertebrale Leitungsanästhesie)
Deutsche med W h sch 29 4 N 8
 By Surg Gynec & Obst

The author employed this his own method, in 150 gynecological and in 20 obstetric operations, including all the usual operations of gynecology and several surgical laparotomies and nephrectomies with excellent results. A large quantity of weakly concentrated 5 per cent solution of novocaine suprarenin (Hoechst) was employed. The anesthesia is based upon the anatomic distribution of the nerve supply for each part of the abdomen and perineum—only the segments of the nerves are injected which supply the part to be operated on. Contra indications were not found. The secondary actions and poor anesthetic phenomena were so slight as to be negligible. In 60 per cent of cases complete anesthesia without any addition of inhalation anesthesia was obtained. The author believes that a thorough trial of the method which is clearly presented should be undertaken so that its advantage may become available to everybody.
 L A JONES.

Eckel A: Critical Review of Local Anesthesia of the Abdominal Cavity (Kritische Beiträge zur Lokalanästhesie der Hohlhöhle) *Wien M R d ch* 9 4 No 30
 By Surg Gynec & Obst

According to Lennander the peritoneum of only the anterior and posterior abdominal wall of the pelvis diaphragm and that part supplied by spinal nerves alone is sensitive whereas the visceral peritoneum is not at all or only slightly sensitive. It is therefore only necessary to anesthetize the abdominal wall and peritoneum to perform a laparotomy under local anesthesia. Braun made practical infiltration anesthesia for operations of long duration by combining novocaine and supra-

renal extract in the local anesthesia of Reckus and the infiltration anesthesia of Sleich. A further advance is the circulatory analgesia of Hackenbruch. These methods suffice in general for all interference in the abdomen if no extensive adhesions exist for the gynecologist, ventrofixation and ovariectomy must be considered. Local anesthesia is therefore capable of supplanting general anesthesia in many abdominal operations, especially if scopolamine-morphine is injected before. Indications are old age, atherosclerosis, vitium cordis, pulmonary tuberculosis, myocarditis. Basedow's disease, goiter and diabetes. The anesthesia of plexuses increases the first still further.

The paravertebral injection method of anesthesia permits the performance of kidney operations, stomach resections, gastro-enterostomies, cholecystectomies and drainage of the gall bladder. The weak point in the method is the large quantity of novocaine which must be employed.

In regard to spinal anesthesia, surgeons have been slow to adopt the method of the gynecologists, on account of numerous deaths and other accidents. Of course with proper technique like that of Doderlein and Kronig these unfortunate results may be avoided at any rate the complicated technique can be mastered only in large clinics the surgeon with little material cannot learn it in all its detail.

The use of extradural or sacral anesthesia is too recent to pass fair judgment on. Its advantages are that the solution can never reach the brain, and the ganglion cells of the spinal cord are likewise not in contact with the solution. The injury to the veins can be avoided if the injection is made in the elevated pelvic position. The action however is not certain and general narcosis is met frequently. The method is indicated in young and middle aged persons not too fat and is contra-indicated in cases of large tumors within the abdomen.
 L A JONES.

SURGERY OF THE HEAD AND NECK

HEAD

Möller R A Case of Complete Scalp Evulsion (Ein Fall von vollkommener Skalpiertung) *Beitr z. kl. Chir* 1914 11
 By Surg Gynec & Obst

The author reports a case of complete scalp evulsion ending in entire recovery within eight and one half months. The treatment consisted in Thiersch grafts of autoplasmic and heteroplasmic origin.

The case is of interest insofar as three distinct grafting operations were necessary the patient having two attacks of erysipelas between the operations each arising not from the grafted area but from a small rhagade near the nose. One

attack occurred four days after a grafting operation and in spite of the attack which involved the entire grafted area in addition to the face the newly placed Thiersch graft took nicely. The heteroplasmic graft as in previously reported cases did not take in this case.
 L A JONES.

Bryant W S Treatment of Purulent Streptococcal Cerebrospinal Meningitis *Surg Gynec & Obst* 9 5 21 240
 By Surg Gynec & Obst

The treatment of septic meningitis, as emphasized by the author, should be developed chiefly along the line of control of the toxæmia and bacteræmia. The aim and object of therapeutic measures aside from the relief of the intracranial pressure consists in the control of the life threatening sepsis.

From his experience the author believes that the stimulating effects of magnesium sulphate can be advantageously utilized in the management of meningitis as well as in the management of other toxic conditions in the domain of otolaryngology. He has used magnesium sulphate for nearly ten years and the results gained by its use are highly beneficial in both mild and severe infections. The patient is given by mouth as much well diluted magnesium sulphate in repeated small doses as can be tolerated without producing too strong a purgative effect. Under ordinary conditions it is not necessary to revert to the intravenous injection of magnesium sulphate the emergency procedure used in obstetrical infections. The author points out the rational conclusion that the same general treatment should benefit streptococcal meningitis and puerperal streptococcal septicemia as both are due to the same bacterial invasion.

The author refers to the history and treatment of a patient 22 years of age who under this indication recovered from a severe attack of purulent streptococcal cerebrospinal meningitis.

The author's conclusions are as follows:
The combination of our experience as otolaryngologists with the experience of obstetricians makes it look for successful treatment of streptococcal cerebrospinal meningitis appear much brighter than hitherto. Otolaryngologists should accomplish as good results in cerebrospinal meningitis as the obstetrician obtains in cases of puerperal sepsis. Although the surgeon can readily protect the patient from death by intracranial pressure the management of the sepsis is quite another problem. This problem of sepsis has received more attention from the obstetrician than from any other medical group. The treatment should be focused on empyema, local and systemic drainage, administration of magnesium sulphate and stimulating general hygiene.

NECK

Hesselberg C.: A Comparison of Autoplastic and Homeoplastic Transplantation of Thyroid Tissue in the Guinea Pig. *J Exp Med* 1915
x1 164 By S. G. Gynec & Obst

The author's purpose in this work was to trace the fate of the thyroid gland after homeoplastic transplantation and to compare it with the behavior of this tissue after autoplastic transplantation. In these experiments the author made use of guinea pigs working always on two animals the grafts being placed in the neck and abdominal region of the animals through small skin incisions. The author's series includes 75 animals with more than 150 grafts. The animals were killed at intervals of one to fifty two days after the transplantation and the transplanted tissue examined microscopically and in a general way.

For a short period of time after operation no difference was seen in the behavior of the thyroid after auto and homeotransplantation. Very soon however destruction of follicles began to take place in the homeografts. This destruction was not caused by a direct primary disintegration or solution of follicles but depended on the destructive activity of (1) the lymphocytes and (2) of the connective tissue of the host tissue. The former invaded the follicles and destroyed them directly the latter grew into the homeografts in larger quantity than into the autografts. In the former it soon became fibrous and hyaline in the latter it remained cellular. The fibrous connective tissue surrounded and compressed and thus destroyed the follicles. In some homeografts destruction by means of lymphocytes in others by connective tissue predominated. The rapidity with which the destruction took place in different homeotransplants also varied. A much better blood vessel supply developed in the autograft.

GEORGE E. BRIDGES

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Reid W. Bilateral Myeloid Chloroma of the Mammary Gland (Über doppelseitige mamilläre Chlorome). *Beitr Klin Chir* 94 47 By S. G. Gynec & Obst

Chloroma belongs to the small group of interstitial neoplasms that on the name of their color. They originate in the periosteum of the skull bones and show unlimited proliferation into the soft parts. They involve the lymph glands in the region and are accompanied by the blood picture of leukemia. They are divided into lymphoid myeloid and myeloblastic chloroma depending on the type of the tumor cells and the blood picture.

This case is described as being of special interest because it did not originate in the periosteum and

there was no change in the blood picture. The tumors in both mammary glands were of the same type. Macroscopically they looked like sarcomata with a green color. Microscopically they were found to be made up of cells resembling the cells of the bone marrow, both types being represented — myeloblasts and erythroblasts. The gland tissue which could be seen between the tumor masses was compressed and atrophic. The axillary glands were infiltrated with cells precisely just like those in the mammary tumors.

This is the only case of myeloid chloroma of the soft parts not accompanied by the picture of leukemia that has ever been reported. Six cases of chloroma of the mammary glands have been reported in recent years. In 3 of the 7 cases (including the present one) diagnosis was not made until operation

in the other 4 the diagnosis was made from the blood picture. This shows the necessity for making blood examination in mammary tumors especially in sarcomata. The green color is a valuable aid in diagnosis but it is well known that many leukemic tumors do not show the characteristic color of chloroma.

This case is of especial interest as regards the question of the relation of these tumors to leukemia. Many authors have held that chloroma was a symptom of lymphatic or myeloid leukemia while others have held that it was a primary sarcoma accompanied or followed by blood changes.

A. Goss

Zinn W and Mithsam R. Extrapleural Thoracoplasty in Pulmonary Tuberculosis and Bronchiectasis (Über extrapleurale Thorakoplastik bei Lungentuberkulose und Bronchiectasen). *Berl Kl Wch* 1915 45 7.

By Surg Gynec & Obst

The authors report 5 cases of tuberculosis and 6 of bronchiectasis operated upon by extrapleural thoracoplasty. The tuberculous case had been growing worse under the usual methods of treatment. In none of the cases was the other lung involved at all or if so only slightly with no tendency to progression. Pneumothorax was either impossible or ineffective on account of adhesion. Extrapleural thoracoplasty was successful in 4 of the cases. The fifth in which the patient died was complicated by intestinal tuberculosis which is generally regarded as a contraindication to operation.

In severe cases Sauerbruch's method of resection is recommended viz. extensive resection of the greatest possible number of ribs from the first or second to the eighth tenth or eleventh depending on the case. The results of partial thoracoplastic operations have shown that they are effective in most cases. Complete thoracoplasty brings about contraction of the lung functional rest changes in the blood and lymph circulation and healing of the tuberculous by inclusion of the focus in newly formed connective tissue. The x-ray picture shows the degree of contraction.

The clinical signs following the operation are decrease in fever and sputum disappearance of tubercle bacilli from the sputum improvement in the general condition and increase in weight. The operation is so much more severe than pneumothorax that it should be performed only when the latter is impossible on account of adhesions.

The surgical treatment of bronchiectasis is more discouraging as it is difficult to obliterate the cavity because of the rigidity of their wall. But it can probably be obtained by operating as lies as advised by Carr-Saunders.

Three of the authors' 6 cases are still living and improved though none of them can be regarded as definitely cured. The chief danger of the operation aside from shock is that of post-operative pyrexia. This is greater if the pleura is injured. Most

surgeons prefer local anesthesia for the operation but the authors have not found that shock was less with local than with general anesthesia. They now prefer to operate under light general anesthesia preceded by scopolamine morphine. A. Goss

Friedrich P. L.: The Decompression and Bursting of the Thorax by Means of Longitudinal Sterneotomy (Die decompressende Thora sprünge durch longitudinale Sterneotomie bei der Luftwegekompression). *Arch f Kl Ch* 1914 200 31.

By Surg Gynec & Obst

The author describes a method for enlarging the thoracic cavity in cases in which the intrathoracic tensions have been increased by mediastinal tumors, neurisms etc. leading to severe respiratory and circulatory disturbances. He reports in detail 5 or 6 cases in which he performed longitudinal sternotomy—a longitudinal division of the sternum—with excellent results in all except one case.

In all the cases he was dealing with encroachment of the organ in the mediastinum by tumor or aneurism leading to respiratory difficulty, cyanosis, inequalities of radial pulse, rapid heart displacement of the heart, compression of the lungs and trachea. The operation was performed with a electric saw, the sternum being divided into two equal parts and the parts separated up to 5 cm. In case the tumor is adherent to the sternum it must be freed from it before separation of the two parts can be accomplished.

In one sternotomy performed on an old man with severe rigidity of the thorax Friedrich failed to secure the separation after division of the sternum. The skin alone is studied after the division, the length of the incision about 3 to 3.5 cm. The effect was excellent in all cases except in the semi-casus mentioned. The respiratory difficulty, cyanosis and circulatory embarrassment receded immediately so that the patient was able to be about in a few days. Excellent tables and radiograph accompany the article. L. J. J. J.

Nordemann O. Experimental and Clinical Study of the Thymus (I) peritonitis and the Thymusdrüse. *Arch f Kl Ch* 1914 200 7.

By Surg Gynec & Obst

Our rather limited knowledge of the effect of hypofunction of the thymus gland is based entirely on animal experiments. There are few data in the literature of the physiology of the thymus gland. Baeh found on irrigation of the thymus in young dogs that there were marked changes in the bones resembling those of rickets. But Nordmann removed the thymus of a young dog and after the conclusion that the organ has no importance in the growing body and that its removal has practically no effect. He thinks the difference in the results of those of Baeh and Nordmann is due to the fact that the former had a greater and in dogs as well as in man the thymus is more important in the growing body than in the adult.

the thymus. The changes may have been due in part also to chronic infection from the wound. He observed such changes in some cases where the wounds did not heal without suppuration.

Hyperfunction of the thymus is sometimes manifested as Basedow's disease. There are cases of Basedow's that are caused by the thyroid alone, some by both thyroid and thymus and some he thinks due to the thymus alone. He describes a case of the latter kind. Among 23 cases of Basedow's disease operated upon 3 died as a result of the operation. These deaths were he thinks due to a persistent thymus gland. The remaining 20 cases which recovered after operation on the thyroid were due to thyroid disease. Unfortunately neither percussion nor roentgen examination can be relied upon to demonstrate the presence of a persistent thymus. Thymic asthma is due not to mechanical pressure of the thymus on the trachea or nerves but to hyperfunction of the thymus.

PHARYNX AND CESOPHAGUS

Meyer W: Further Experience with Resection of the Esophagus for Carcinoma 5 g G₂ & Obsl 1015 6 B₃ S rg G₂ & Ob 1

In accordance with his conviction previously expressed that every case of resection of the appendix should be published the author reports four further cases treated by the operation in King's College Hospital, London, during the year 1932. Eight in all the report of the first four having appeared in the same journal December 1932. None of the patients survived operation although one of them a man of 68 gave promise of recovery when in evidence of septic pleurisy with oppression of urine subsided after a week of intravenous irrigation.

Meyer adds the history of a ninth patient in whom the first stage of resection had been successfully done as planned. The esophagus had been divided between the aortic arch and the cardia, each end was inverted the proximal doubly. A free fascia transplantation upon the latter which had been planned was omitted in order to save time. Post operative drainage under differential pressure was done. The patient was out of bed on the fifth day as a result of the eversion of the proximal stump. He developed an esophygical thoracic fistula on the fourteenth day. He succumbed on the twentieth day after operation for bronchopneumonia due to perforation of the tumor into the bronchial tree.

Early improvement in the results of this operation is to be hoped for. The following three recommendations are made:

1. More careful selection of cases for radical operation, particularly during the thoracotomy.

2 Removal of the proximal esophageal stump from the posterior mediastinum and subcutaneous transposition antethoracically

3. Post-operative pleural drainage

The author believes that infiltrating carcinomata behind the aortic arch which have produced clinical symptoms for several months should be excluded from radical operation at least for the present. Otherwise he is in favor of resecting every malignant structure of the esophagus no matter in which portion of the tube it is found.

Rev. wing from the station point the 8 refections
so far reported by the author it appears that only
were suitable cases for operation. Both died of
pyuria effusion the wound having been hermetical
ly closed. One at least would have had a fair chance
of recovery had drainage been employed.

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Goebel C The Closure of Defect of the Abdominal Wall (Zeilged Vrach) 4 4
w addufekt) B i kl Ch 4 4
H Surg i & Obst

The uth r report three se u wh h l rge
lef rts of th abdomi al will rult i from se al
c use nd i which h employ d rela tio in
c to lut rally to th defect nd r t i in
primary union ster to ure of th i f i th
prin spl fth peratio to m k l grt tio
i ion through illay r f th bdm i wall
kin f sci nd muscle to the perio m i l w l
by wide tamponade with lod f rm g at pr nt
pyocyanous inf tion in of t ve
local f tult i r losure of th bow l w l th
abdomin l wall i lose i mply th rch th
bow l suture is reinforce f i f i tho of th belly
w l suture line p v m t i h al i
nction i allowed to gra tu i h q tho

risks. What is the probability of hernia in the
start of the relaxation incision. Goble's con-
clusion are as follows:

In pit of extensive eczema in the neighborhood of the facial sulci primary unit is resulted in each patient. In the places concerned, the blisters

The relaxation into a warm liquid bath through the trans rectal muscle and a pair of prolonged tamponade he kept a firm car without leveling a hernia (after an 14 years rectally) in part through the rectal muscle inguinally. He also firm car resulted with any 12ers of his appearing for tamponing purposes of firm gauge should be employed.

The principle of relaxation is so well applicable in the clinical large central hernias in the lower of tense abdominal wall units.

The appearance of poor operative hernias apparently are favorably compared to the muscle tissue and that of the latter showing the

Loth Pseudomyzotoma of the Peritoneum and Vermiform Appendix (Über das Pseudomyzotoma peritonaei et processus vermiformis) Beitr. kl. Chir. 1914 xciv 47 By Surg. Gynec. & Obst.

The author describes a case of pseudomyzotoma originating from the appendix. Under the symptom complex of an acute appendicitis the disease commenced and ran the course of an acute attack of appendicitis gradually receding. The patient had several attacks and finally consented to be operated upon. On operation a club shaped appendix was found the proximal end entirely obliterated and the distal end showing a perforation surrounding which the peritoneum was covered with the myxomatous-like mucosa. The appendix was removed and the myxomatous structure was peeled off the surrounding tissue on which it had been deposited. It was peeled off easily and did not invade the tissues *per se*. As it seemed to be deposited there from the appendiceal perforation without showing any tendency to invade the structures *per se* it was not deemed necessary to resect any of the surrounding tissues. Complete recovery resulted and the patient—3 years later—still remains well. L. A. J. 3232

Santy P Irrigation of the Peritoneum with Ether an Experimental Study (Le lavage du péritoine à l'éther: recherche expérimentale) Lyon ch. 1914 2 233 By Zentralbl. f. d. ges. Chir. u. G. 1914 3 d. Grenzgeb.

Ether applied to the peritoneum of an animal that is not anesthetized produces considerable pain. If after introduction of the ether the small abdominal wound is immediately closed or if the ether is injected through the abdominal wall with a syringe marked meteorism results from the ether vapor which develops. Twelve centimeters of ether in a rabbit weighing 1900 gr—corresponding to 500 ccm in a man weighing 65 kg—produces deep coma, cyanosis, dilatation of the pupils and death. One grain of the ether to the kilogram of weight injected intraperitoneally produces anesthesia for about an hour. The ether does not act so quickly when used in any other way. If in animals of the same size 10 to 30 grains of ether are introduced into the abdominal cavity after laparotomy and the abdominal wall is not closed until the ether vapor has passed off so that the intra-abdominal pressure does not rise only slight symptoms of intoxication appear. The small intestine contracts strongly when touched with ether. The large intestine shows slight dilatation.

The animals so treated were left alive for 13 days lengths of time in order to study the peritoneal injuries produced by the ether. These injuries were apparent for the first few days as ecchymoses and hyperemic places that were visible macroscopically. Microscopically the endothelium was injured. The cells were contracted and some of them discharged. The remaining cells increase and after twelve days the endothelium is completely restored. Connective tissue which is also irritated

by the ether becomes thicker. The injuries to the peritoneum are much less than might be expected. The only danger to avoid is the immediate closing of the abdomen. AMSTAD

Rasmstad N O Subphrenic Abscess J. Lancet 1914 5 xxxv 39 By Surg. Gynec. & Obst.

The subphrenic space is divided by the falciform ligament of the liver into right and left spaces which have independent lymph channels and drain different parts of the abdomen. These spaces may be infected in various ways.

- 1 By direct extension from neighboring organs. As a result of general peritonitis.
- 3 By infection from the appendix through the rectocolic lymphatics.
- 4 By extension through the portal vein or following disease of the gall bladder or the liver the kidneys, stomach, pancreas and spleen.

More than half of all cases originate in the appendix the next most frequent cause being ulcers of the stomach or duodenum. The pus most often contains colon bacilli although mixed infection is the rule.

Subphrenic abscesses have a tendency to perforate the diaphragm but seldom the peritoneal cavity at such or other viscera. They result in an empyema or lung abscess or if a bronchus is perforated the expectoration of foul pus.

The symptoms are not always typical. With a history of a previous abdominal infection there develops a gradually increasing fever, malaise, occasional vomiting, slight respiratory pain in the right side, tenderness over the same region and a high leukocytosis. Percussion shows a convex line of dullness above the diaphragm and on auscultation there is lessened respiratory sounds with a few rales. Exploratory puncture and the X-ray are of advantage in diagnosis. The plate showing the high convex line of the abscess instead of the straight line of an effusion.

Early drainage of a subphrenic abscess increases the chance of recovery. Occasionally drainage may be done through the lumbar region but as a rule the abscess is too high and the transpleural method must be used. After resection of the eighth or ninth rib the two leaves of the pleura are accurately sutured together before they are in use. Because of the weakened condition of these patients and on account of the difficulty of respiration local anesthesia alone had best be used. Left-sided subphrenic abscesses are best drained through an abdominal incision to the left of the ensiform cartilage.

F. A. AMSTAD

GASTRO-INTESTINAL TRACT

Campbell A M Benign Tumors of the Stomach J. Surg. Gynec. & Obst. 1914 5 56 By Surg. Gynec. & Obst.

Campbell gives a general review of the literature upon the subject of benign gastric tumors.

Consideration is given to the fact that comparatively few cases are reported and that most of these are found at post mortem or are accidentally found during operations for other conditions. It includes among the more important benign growths of the stomach myxomata fibromata lipomata adenopapillomata and lymphadenoma. Those of more rare occurrence are myxomata osteomata hydatid cysts aneurism and syphilitic gumma.

Attention is called to the fact that these growths occur in patients advanced in years and in many cases are associated with other pathological conditions of the stomach or cardiovascular system. It is considered improbable however that these associated conditions can be considered as direct etiological factors in the production of gastric tumors of benign character.

The pathology of these growths is taken up in considerable detail and the frequent occurrence of malignant changes is emphasized although the progress of such changes is not rapid.

The author considers that these cases all present at some time or other symptoms of gastric disturbances. These symptoms may be obscure and periods of complete recession are found but sooner or later evidence of pyloric obstruction is observed.

Campbell urges that extra care and study be used in the diagnosis of gastric conditions in order if possible to make more definite diagnosis before operation. He strongly advises conservatism in handling gastric tumors where definite evidence of malignancy is not present.

Campbell reports a case of a woman aged 51 years whose early history was negative excepting mild forms of indigestion for years. The present trouble had begun two years before she had lost 25 pounds in weight, became weak and nervous and tired easily. She had a number of attacks of severe gastric pain, vomited considerable quantities and on two occasions required opiates for relief. Between attacks she was comparatively comfortable.

Physical examination was negative; there was no evidence of pyloric obstruction and no tumor was felt in the abdomen.

Examination of the gastric contents showed an absence of hydrochloric acid; examination of the blood gave a picture of marked secondary anemia.

The patient was sent home with instructions as to rest, medication and nutrition. Subsequent examination gave the same findings with the exception that small amounts of blood were found in the stomach contents and stools. The combined findings suggested her disease gastric leiomyoma. A probable diagnosis of papilloma of the stomach was made and operation advised.

A papillomatous growth was found in the stomach, the tumor being about the size of a pigeon's egg and situated on the posterior wall of the greater curvature about four inches from the pylorus. The pedicle was small, about half an inch in length.

mitting considerable movement of the tumor. The tumor was removed and the stump was cauterized very little hemorrhage resulting.

A pathological examination of the tumor showed it to be of papillomatous nature on a possible adenocarcinomatous base.

Campbell assumes however that as there were no metastases present and as papillomata are usually of benign nature that this growth may be considered benign. Nine months have elapsed since the operation with no recurrence of symptoms.

Hauack: The Prognosis and Treatment of Perforating Gastric Ulcer (Z. Prognose und Therapie des perforierten Magengeschwüres). *Beitr. z. Ch.* 1914, 1: 70.

By Surg. Gynec. & Obst.

The surgical treatment of gastric ulcer exclusive of the purely surgical technique depends primarily upon the certainty that a gastric ulcer and not a cancer is being dealt with. It is certain that it is an ulcer and there is no likelihood of a later cancerous degeneration; a simple gastro-enterostomy should suffice. Since every callous ulcer presents the possibility of being a beginning cancer or later developing into one, a much more radical procedure must be undertaken even in simple ulcers. It is not at all rare to find by microscopical examination that what was believed at operation to be an ulcer was in reality a cancer. Since Riedel and Payr have advocated excision and resection so urgently these questions have become all the more acute. Payr reported 0 per cent of cancers present in what he believed to be pure callous ulcers. Riedel found 30 per cent. Hofmeister 25 per cent. Jedlicka 26 per cent. Kuttner 43 per cent. English and America's surgeons estimate the number of cancers upon an ulcer basis as high as 60 to 71 per cent, bringing microscopic proof that ulcer precedes the cancer.

From the foregoing it must be concluded that cancerous degeneration of an ulcer occurs much more frequently than was hitherto supposed. Recently however these figures have been considered highly exaggerated by some men who even doubt the cancerous degeneration of the ulcer altogether. Kocher believes that when an ulcer patient later develops cancer it only shows that the ulcer was in reality a cancer primarily. Kausch and Bier take the same view. A Payr so aptly states it is immaterial whether the ulcer becomes carcinomatous soon or late or whether harmless as it appears it is already a cancer; one thing is certain that in a great number of cases it is impossible to decide whether the lesion is a simple ulcer or a cancer; therefore the great majority of surgeons still advocate resection of every ulcer in spite of Kocher's renewed plea for gastro-enterostomy.

In cases of perforating ulcer gastro-enterostomy is not to be considered. Here the danger of peritonitis and hemorrhage is so evident that later complications are rarely considered and in the

treatment these two complications alone are usually considered

The author reports two cases in which perforation of a gastric ulcer occurred. The ulcer was excised in one case and in the other the ulcer was sutured and covered over with omentum. Both patients died of cancer a few months later.

It is rather surprising that in the literature no one has ever called attention to the fact that the perforating ulcer of the stomach may be cancer primarily and treated the case accordingly. The general opinion prevails that gastric cancer is a case of perforating ulcer and it is unnecessary to consider the possibility of it being a carcinoma primarily nor the possibility that a cancer may later develop upon the ulcer site. From the two cases reported however it is evident that these possibilities exist and treatment must be planned accordingly.

L. A. JONES

Linke R. Acute Dilatation of the Stomach
(Beitrag zur Kenntnis des akuten und chronischen Magen- und Duodenal-Obstruktions-Syndroms)
Chirurgia 94, 360. By Surg. Gynec. & Obst.

The author reviews in detail the subject of acute dilatation of the stomach. He holds that the occlusion of the duodenum by the arterioesophageal root is not the primary cause of the acute dilatation. Primarily the complete compression of the duodenum between the arterioesophageal root and the aorta which protrudes anterior to the spine is impossible. Secondly the absence of gastric hypertrophy and of increased peristalsis speak against a primary obstruction. Furthermore it has been proven experimentally that by influencing the nervous system an atony of the stomach can be produced. Lesions of the nervous mechanism deprive the stomach of the ability to empty itself. The failure of the gastric musculature therefore is a functional disturbance. He believes that without functional disturbance of the gastric musculature acute dilatation is impossible. Arxhaue, Paye, Williams, Kelli and others have presented cases of complete obstruction of the duodenum without any dilatation of the stomach although some dilatation of the duodenum proximal to the obstruction existed. He sees in the partial paresis of the musculature the primary cause of the acute dilatation.

As to the cause of the muscular paresis the author presents some interesting points. According to Ruedel the exposure and handling of the stomach and intestine during laparotomy is one cause. Von Herff and Kling point out that a series of 300 inhalation anesthetics nearly all of the patients showed some grade of gastric atony and dilatation. Von Herff attributes this to the injury of the nerve mechanism by the anesthetic especially chloroform and considers it a transient chloroform poisoning. Ordinarily this process recedes within 10-12 hours. If it persists longer the patient presents a sthenic vomiting also persists and a predisposition to acute dilatation is present.

Kuru and Vangel attribute it to a functional disturbance of the suprarenals with lack of adrenalin which regulates the stomach. Chavannas and Payer mention the individual predisposition existing in some people and mention five interesting cases in which the trouble recurred frequently.

Acute dilatation therefore must be considered as the result of a paresis of the stomach musculature as there is no acute dilatation with perfect function of the musculature. The arterioesophageal obstruction of the duodenum must be considered secondary after the dilated stomach exerts pressure upon the small intestine and with it exerts traction upon the duodenum beneath the mesenteric root. The paresis of the gastric musculature may be due to central peripheral and reflex innervation disturbances to mechanical as well as toxic infectious injury to the muscle fibers or even to a disturbance of the internal secretion governing it.

In regard to treatment the author warmly recommends the abdominal position as the only hopeful one in treatment. The knee elbow position or the right lateral prone likewise are of value since in these positions the compression of the duodenum if any exists is removed. The evacuation of the stomach in the abdominal position is also much more easily accomplished. Gastroenterostomy in acute dilatation of the stomach does not enter into the therapy at all as drainage possibilities are not established; the dilated stomach its muscles being atonic and incapable of forcing contents through the artificial opening. Of much more value and far less serious is the repeated evacuation of the stomach by means of the tube permitting the organ to gradually regain its tone. The most important however is the abdominal position. This in conjunction with the stomach tube and judiciously has recently rendered results far superior to any heretofore. The early diagnosis is the most important. P. Muller states if we only think of the possibility the diagnosis offers no serious difficulties. Judicious measures instituted early will cure even the severest cases.

L. A. JONES

Pers A. Operative Treatment of Hour Glass Stomach (Über die operative Behandlung des Saugbrunnens). Deutscher Medizinischer Kongress 1916.

By Z. Traub, Chirurg. Gynäk. G. Bartsch, G. Grenzgeb.

Hour glass stomach is used by one or several cases generally of the lesser nature occasionally on the greater curvature which infiltrate the stomach wall considerably so that a muscular induration is produced. Röntgenography the best method of diagnosis when it is available but if it is not available the diagnosis can be made by producing gas and water in the stomach. When a gas is introduced at the stomach there is gurgling or whistling sound in the stomach. It is noted that the whistling is produced through the action and is not a false sound. It is noted that the whistling is not a false sound.

it indicates hour glass stomach. When water is poured in and remains in the stomach or if the fluid removed is at first clear and suddenly becomes turbid hour glass stomach is indicated.

In operating an anastomosis may be made between the two parts of the stomach or between the stomach and intestine. The author prefers the former because it avoids a vicious circle. He still prefers this method to any of the other palliative operations. He has used it in 7 cases with only 2 recurrences and those only after 5 and 7 years. In recent years however he has come to regard resection as the method of choice and in benign cases the mortality is no higher than with the more conservative method. Where it cannot be used on account of age or weakness of the patient or on account of arteriosclerosis gastro anastomosis is performed. He thinks circular resection of the constricted part on account of the stomach is just as dangerous as Billroth's complete resection and not as effective. The pylorus if not removed may later become the seat of ulceration. A G S S

Beck C Plastic Surgery of the Stomach and Experimental Study S G Gy et al Obs q 5 By S R Gy et al Ob t

The author has studied the question of plastic operations on the stomach and reports 5 series of operations on the dog as follows.

1. In the first series the operation consists in the formation of a tube like gastro enterostomy according to the principle developed by Hermann and Alexis Carrel in 1904 in the formation of a new esophagus (now called the Jannu operation).

2. The second consists in the implantation of a portion of jejunum into a gap of stomach formed by resection of the pylorus.

3. In this series there is implantation of a pedicled flap formed from the small intestine into the defect created by a flap resection into the small intestine of the stomach.

4. The fourth series consists in flap operation according to well known principles of plastic surgery. 5. In this series there is resection of part of the anterior wall of the stomach and covering with omentum only without stitching the wall.

All these results were studied with fluoroscopy and skiagraphy and are now studied from physiologic standpoint.

Johnston J C A Suggestion in Cases of Latent Operation for Intestinal Obstruction Med R q 1 x u By Surg Gy et al Ob t

In removing the intestinal obstruction no mechanical indication is met but the test tube lying below the constriction has not been prepared to with stand the absorption of fermented material from the upper segment.

The pathology of this distended part permits certain changes in the wall itself through which venous bacteria may pass perhaps a large quantity of fluid is merely allowed to accumulate in the

intestine above the obstruction this fluid is usually a mixture of hypersecretion inflammatory exudate and blood. This is followed by fermentation and venous stasis and the destruction of the epithelium then follow necrosis, ulcer perforation peritonitis and more often death if operation has been long delayed. The operation often performed is a simple enterotomy to liberate the contents of the intestine at the point of greatest distention the wound being thus closed with a dependable intestinal suture.

Instead of closing the intestinal wound at once the author clamps the lower segment of intestine and thoroughly irrigates the upper segment for as great a distance above the obstruction as may be easily reached using sterile water or half strength physiological salt solution. It is important that none of the accumulated material above shall enter the empty and thirsty intestine lying below the obstruction.

When the operator is thoroughly satisfied that he has met the mechanical requirements of the obstruction by liberating an incarcerated bowel in hernia or remedied the condition brought about by volvulus intussusception diverticulum neoplasm foreign body or fecal impaction he should clamp the end of the upper segment and then remove the clamp on the lower segment. Then the half strength salt solution should be slowly instilled into the lower segment with a view to saturating it so that the rapid absorption of harmful products will be doubly guarded against and diluted when the fecal stream is allowed to resume its course.

If the case presents evidence of not being suitable for complete operation at once the intestine may be fastened to the abdominal wall and the irrigations above and below the opening continued at intervals until the condition of the upper segment warrants the closure of the wound.

If the instillation of the fluid into the lower segment be continued until the upper segment is in a condition approaching normal some of the cases of toxemia that occur when the fecal current is restored will be avoided. This treatment could follow a resection even anastomosis done later is much better for the patient and surgeon than an explanation on the death certificate of how it happened. EDWARD I CORNELL.

Dea J B and Ross, G G The Mortality Statistics of Two Hundred and Seventy-Six Cases of Acute Intestinal Obstruction A S G Phila 1915 1 q 5 By Surg Gy et al Ob t

The article is an analysis of the statistics shown in 6 cases of acute intestinal obstruction during a period of ten years.

There was a mortality of 42 per cent. Da Costa reports that the mortality is 60 to 70 per cent. The average time between the onset and operation is three days. The average time between the onset and death is 4 1/2 hours. Several noted surgeons are quoted

showing that prompt diagnosis and operation are essential to a low mortality. The cases were about equally divided between the two sexes.

In the list of etiologies strangulated hernia stands first with 156 cases followed by post-operative adhesions with 81.

The average mortality of the hernias was 33 per cent the highest being in the umbilical and ventral varieties. This is probably due to the fact that the acute symptoms are delayed and of lesser severity.

Taxis and manipulation should not be prolonged over five minutes (Coley). The authors always operate immediately using either general local or spinal anesthesia.

The cases of post operative adhesions showed a mortality of 49.3 per cent accounted for by the long lapse of time between the onset and operation and by delayed diagnosis. Fifty one of these 81 cases followed appendectomies 44 of which had had drainage. Twenty seven of the 51 cases died. The majority of these cases would have had no adhesions had they been operated upon early in the appendiceal attack, so the authors believe.

There were five cases of volvulus with a mortality of 40 per cent and two cases of intussusception one of which died.

Care should be taken not to be deceived by evacuations of the lower bowel only as a result of enemas.

In closing the authors reiterate and insist that it is only by prompt diagnosis and immediate operation that the mortality of acute obstruction can be reduced.

PHILLIPS M CHASE

Sorensen A L. A New Method of Lateral (Side-to-Side) Intestinal Anastomosis. *Surg Gynec & Obst* 1952; 23. By Surg Gynec & Obst.

The purposes of the new technique are to shorten the time of the operation to about one-half to avoid the formation of two cul de sacs, and to form an anastomotic opening which cannot be occluded.

The technique is as follows:

The two stumps of the intestines are approximated with the cut edges in opposite directions. A strand of silk threaded on two hemostatic needles is used for a seroserosal suture which is started midway between the two cut edges about 1 mm from the attachment of the mesentery. Each needle accomplishes half the suture in opposite directions up to about 3 mm from the cut edges. The needles are gently pulled so as to approximate the serous surfaces and are temporarily dropped. With scissors the two stumps of intestine are cut longitudinally and parallel to the seroserosal suture approximately 3 mm from it. Two needles are threaded with chromic catgut No. 1 and a suture is started opposite the point of the seroserosal suture which will intersect the three coats and is continued completely around half way with each needle until the intestine is completely closed. The ends of

the catgut are tied with two knots and cut short. The two needles which had started the seroserosal suture are picked up, pulled gently apart again and the suture completed half way with each needle until the two meet when the thread is tied and cut.

The author strongly recommends the use of catgut for the through and through suture.

Numerous photographs illustrate the article and show each step of the procedure and specimens demonstrate that the anastomosis is very smooth and the natural size and shape of the lumen are preserved because the two stumps are united in a slanting position and that the gut is much larger at the point of the anastomosis than at any other point so that there is ample allowance for any possible future contraction completely preventing cicatricial occlusion. The author recommends that this procedure like all new operations, be tried on living animals or on the cadaver before it is attempted on human beings.

Heil B. The Physiology of the Appendix (*Zur Physiologie des Blinddarmanhaes*). *Beitr z Anat Ch* 1914; 20: 520.

By Surg Gynec & Obst.

In an extensive series of animal experiments, numerous experiments with appendiceal extracts in vivo and in vitro and similar experiments carried out on the living human, the author endeavored to determine the physiology of the appendix. Considering the structure of the appendix analogous to that of the caecum and colon, the physiology of the appendix is analogous to that of the caecum and its intimate relation to the caecum and ileocecal valve renders these three structures functionally related.

His conclusions are:

The appendix contains in its wall ferment (albumin splitting trypsin and carbohydrate splitting ferment) which can be demonstrated in the lumen of the living appendix as secretions of that organ. These fermentations are endocellular in nature and can be separated from the cell connection by autolysis. Furthermore there are hormones present in the cells of the appendix lining capable of initiating powerful contraction of the bowel in the living animal, therefore the function of the appendix is analogous to that of the caecum to which it is attached.

The appendix, caecum and ileocecal valve together act as a physiologic unit each acting in harmony with the others. The appendix by means of the posterior longitudinal band is in relation with the ileocecal valve. It consists of a mesocolic valve but closure muscle (the muscle ileocolic membrane valve of Krumpholtz) innervation of the muscle and of it from the splanchnic plexus. In the case of antiperistalsis the ileocecal valve contracts.

bowel propulsion takes place which may become the cause of clinical disturbances if the valves should become inefficient as a result of weakness or irritation. In case of spasm of the valvular muscle a severing of the muscle may be considered.

L. A. JUVANE

Dandy W. E. Benign Tumors of the Appendix
Especially Myxomatosa (Zur Kenntnis der gutartigen
Appendix-tumoren speziell des Myxoma) Bei-
h. Ch. 914 xc 1

By S. rg. Gynec. & Obst.

Dandy gives a history of an operation for benign tumor of the appendix. Benign and malignant mesodermic and epithelial tumors of the appendix have frequently been observed in recent years. The majority of these tumors were cysts and these were first thoroughly studied by Ribbert. He believes that these cysts of the appendix originated in inflammatory changes which prevented the discharge of the secretion thus producing a cyst. This view is not universally accepted.

Crouse has recently cited 250 cases of cysts of the appendix from the literature. They constitute about three-fourths of all tumors of the appendix. Next in frequency is carcinoma of which Harte has quoted 150 cases. He finds carcinoma of the appendix in about one-third to one-half percent of appendix operations. As there are a great number of pseudocarcinomas among these, Harte's figures are too high. Though these tumors show the histological structure of true carcinoma, they must be counted clinically among the benign tumors for they appear at an early age and do not produce metastases nor recur after simple appendectomy.

Another form of benign tumor of the appendix is polyps. Kelly mentions only 4 cases in his book and the total number is not more than 15. Mesodermic forms are more rare than the epithelial cysts and tumors and among them carcinoma is a little more frequent than benign connective tissue tumors. Most of the sarcomata are of the round cell form but occasionally a myxosarcoma is observed. The total number of sarcomata is about 25.

Dandy reviews only the connective tissue tumors and those originating in the smooth muscle. He has collected 10 from the literature and adds his own. Characteristically these tumors generally present the picture of pseudocysts and it is almost impossible to make a clinical diagnosis of most of the appendix. They are too small to be gained by palpation through the abdominal wall but are generally from the size of peas to that of a walnut. Only one of the cases was large and slightly nodular. It could not be demonstrated before the operation. Histologically they have the diffuse characteristics of connective tissue tumors—fibroma, fibromyoma and myoma—where the appearance of smooth muscle tissue. Although Dandy's case showed infiltration and proliferation

the whole macroscopic and microscopic picture proved it to be a benign connective tissue tumor.
A. Goss

Quervain F. de The Diagnosis of Acquired Diverticulum of the Colon and Sigmoiditis Diver-
ticularis (Zur Diagnose der erworbenen Diverticul-
arum und der Sigmoiditis diverticularis)
Deutsche Zeitschrift für Chirurgie 94 4 1 Nos 1 & 2
By S. rg. Gynec. & Obst.

De Quervain gives a report on two personally operated cases. When acute or chronic disturbances arise in older patients in the region of the sigmoid one must always consider diverticulitis among the numerous conditions that may be present especially if signs of acute peritoneal irritation develop in the left iliac fossa. A positive diagnosis of a diverticulum and inflammation may be arrived at with the aid of the rectoscope if it is possible to introduce it high enough. Diverticulosis can under favorable circumstances be diagnosed by the X-ray picture. Diverticulitis on the other hand does not furnish such a picture it being characterized by a slow filling of the sigmoid also found in sigmoiditis. In diverticulosis it is important to look for evidence of a filled diverticulum after the test enema has been partly expelled.
L. A. JUVANE

Sudeck P.: Diverticulitis und Sigmoiditis (Zur Frage der Diverticulitis und Sigmoiditis) Bei-
h. Ch. 914 ci 78
By S. rg. Gynec. & Obst.

The author reports a series of tumor like inflammatory conditions of the colon especially of the sigmoid flexure. He states that the literature of late contains numerous reports of these cases so that the diagnosis of a benign enlargement of the large bowel must be considered in all affections of that organ.

In most cases the so called Graser's diverticula are present. These consist of hernial protrusions of mucosa and serosa situated more frequently in the sigmoid. At times they are filled with small round enteroliths which can be forced back into the bowel. The surroundings are commonly inflamed by their irritation. As a result of this irritation suppuration frequently takes place or gangrene either with perforation into the free abdominal cavity or with a more chronic suppurative inflammation of the bowel wall and of the fatty tissue of the colon leading to abscess formation adhesions and above all constriction of the bowel. An occasional favorable outcome is the perforation of such an abscess into the lumen of the bowel followed however by carcinoma. In one case the author found a combination of suppurative sigmoiditis with a small cylindrical celled epithelioma of the sigmoid not knowing whether the carcinoma was secondary to the sigmoiditis or the carcinomatous ulcer the cause of the sigmoiditis.

In seven cases the sigmoid was involved in three the ascending colon. These inflammatory

tumors are clinically very similar to the carcinomatous tumors not only before operation but also during operation it being at times very difficult or even impossible to distinguish between them macroscopically. The clinical picture like carcinoma of the colon is characterized by digestive disturbances obstructive phenomena and evacuations of mucous stool and since cancer is the most probable diagnosis this is usually made. The presence of blood in the mucous stool may also occur in sigmoiditis. The absence of occult blood however may be taken as a sign of sigmoiditis in the presence of a large tumor as a large cancer will hardly undergo disintegration without blood in the stools. The regular rise in temperature associated with mucous stool containing no blood is of considerable significance in addition to the local pain and sensitiveness and urinary disturbance and lastly the demonstration of the Graser d. erythry by means of the sigmoidoscope and the X ray.

Also after the abdomen is opened confusion with cancer may arise on account of these circumscribed tenosarcoma pseudotumors. It is important to think of the possibility of their occurrence. Suspicion should be aroused by the presence of diverticula adhesions to the parietal peritoneum omentum mesenteric and bladder. Of decided importance is the characteristic appearance of the last infiltrated fatty tissue with a shining surface contrast with the paler nodular appearance of the cancerous surface. It is important to make this diagnosis since the method of operation must naturally be entirely different.

In regard to treatment the author does not favor the non-operative on account of the difficulty with which cancer can be excluded. The operation differs from that for cancer in that in the pressure of the latter radical procedure are indicated where as in sigmoiditis the opposite is true. Exclusion of the diseased segment would be the ideal method as in high lesion. In low pelvic lesion this is impossible and resection must be considered. Thus however either abdominally alone or combined with perineal or sacral attack is relatively secure and is indicated against. The format on of an intra-peritoneal is perhaps the safest permitting local treatment by means of the sigmoidoscope until the inflammatory as well as the obstructive condition has improved. I. A. J. J. J.

Schulze-Wege Syphilitic Strictures of the Rectum
(Ber. ph. u. ch. Med. 1884, 1885) B. J.

According to Rueder these strictures are to be recognized as syphilitic in which at microscopic examinations are endovascular hyperplasia of the veins exist but in which the arteries are practically normal. According to Ruge syphilitic proctitis ulcers cannot be differentiated macroscopically from proctitis ulcerosa tuberculosa or dysenteric.

The ulceration in most cases begins a few centimeters above the anal opening and does not invade the anal ring. It is usually circular.

Esmarch claims that the ulcerations are mostly multiple of various sizes from that of a lentil to that in which the entire rectal mucosa is one ulcer. Coincident with the ulceration a marked hyperplasia of the connective tissue occurs which changes the rectum into a firm thick walled immovable tube. The strictures result from the uneven scar formations and their contraction. Later a proctitis may set in and invade the genital as well as the urinary apparatus and fistulae may also result.

Of interest is the fact that the great majority of cases occur in women. Schuchardt's figures show 86 per cent among women to 4 per cent among men. Rieder explains this due to the fact that the lowest hemorrhoidal veins communicate directly with the outer veins of the vulva and communicate the most frequent site of the primary secondary and also tertiary lesions. As a result the virus is transferred directly to the rectum by means of this vascular connection. According to Fraenkel they are due to chronic obstipation in women a mucous membrane defects being quite common in the rectum which are sites of predilection for syphilitic ulceration.

Therapeutically bougie treatment is as inefficient as specific treatment for the underlying disease.

Sick has employed a radical method—rectum amputation after Kraskie's method by the sacral route leaving the sphincter intact. After resection he uses Hochenegg's method of drawing the upper segment through the lower before uniting.

The author reports 7 cases with complete histories. He believes the difficulties are great owing to the dense adhesions and contractions in the perirectal tissues the friability of the rectum the friability of the blood vessel leading to severe hemorrhages frequently greater than those of the carcinoma rect but as it is the only method with which permanent results are obtainable these severe cases are justifiable. L. A. J. J.

LIVER, PANCREAS, AND SPLEEN

Todd G. M. Duodenotomy in Common Duct Stone. S. S. Phila. 1885. B. J. J. J. J.

The author reports with little exception the common duct stone with exception of the symptom and in the early stage of his own.

No typical operation of duodenotomy exists although the duodenum has frequently been opened for other causes. The operation was suggested in 1884 by the author. The operation is a fusion of the duodenum and the common duct there has been a duodenal opening outward or crushed as hole or holed.

(3) The tone is so large that it requires a big incision followed by subsequent suture

Approximately 130 cases have been collected from the literature and it is noted that seldom do the most extensive operators choose the duodenal route and then often only on an emergency indication. There follows a complete list of the cases reported from 1894 to 1913. The case histories of a few of the latest are cited in detail. It is noted that few are undertaken solely with the aim of removing a stone from the common duct but more often a sequel to a previous gall bladder operation when the symptoms do not improve. It is also noted that the surgeons had not operated before but that this method appealed to them as suiting the indications was not difficult and was practically without mortality.

The article concludes with a detailed report of nine personal cases operated upon by this method and the following summary

- 1 Duodenotomy is safe and rational and should be used more frequently
 - 2 It is much easier and safer than choledochotomy
 - 3 It gives a much lower mortality than the former
- PHILLIPS M CRA

Rollmann: Acute Pancreatitis (P. n. 11 ac 1)
De tsch Zt sch f Ch 9 4 1 Nos nd
 By Surg Gs ex & Obst

This is a contribution of 1 cases of which were fatal. Acute pancreatitis is not more common in the obese and occurs with equal frequency in both sexes. Cholelithiasis is often of etiologic importance. Hemorrhagic necrosis inflammation and often suppuration together constitute a complete clinical picture. The diagnosis is often difficult because in most cases pathognomonic symptoms are absent. Inflammatory reaction above the umbilicus is perhaps the only single symptom of real significance. Acute pancreatitis is generally a very severe affection great differential diagnosis is a difficult one. It is earthless identical with the treatment is absolute. It is absolutely necessary to free the pancreas and furthermore to place it in a capsule in order that the well-gaditions of the gland may be relieved. Only in the case of the destroyed tissue be cast off and the absorption of the poisonous secretion be prevented. Operation should be done as soon as possible. With more radical procedure the result is very remarkably improved.

Küttner H The Pancreas Complications Following Resections of the Stomach According to the Second Biliroth Method (Duodenal Complications of Major resection of the Stomach) Biliroth (1934) 10 4 233 60 By 5 8 () et al Ob t

The author believes that a resection of the stomach according to the second Billroth method the

duodenal stump should not be covered with pancreas to insure its impermeability. Mayo has recently advocated the procedure as have also Willy Meyer and Faylass. The author himself has employed the procedure for the past four years but is again returning to his former method.

In his clinic during the past six years 170 stomach cases have been operated upon according to this method with a total mortality of 25 per cent. Among these 170 stomach resections there were 94 in which the pancreas was not employed and only 18 per cent died whereas of the 76 cases in which the pancreas was employed 36 per cent died. But if these cases are analyzed it will be seen that of the 27 of the latter who died there were 5 cases of fat necrosis 6 cases of diffuse peritonitis of uncertain origin 1 case of diffuse peritonitis with suppurative deposits around the head of the pancreas and 2 sudden deaths not accounted for by the smoothly performed resection and without any pathological findings at autopsy. While all these deaths are not attributable to the method yet certain ones undoubtedly are such as the acute fat necrosis cases and the peritonitis cases with sero-haemorrhagic exudate within the peritoneal cavity. Furthermore the entire absence of death due to causes in the other group confirms this view.

From his experience the author concludes that unless absolutely necessary the pancreas should not be perforated nor employed to cover the duodenal stumps in cases of gastric resections. If however the pancreas is involved in a carcinoma or the pancreas is necessary to cover the defect or stumps, no hesitation should be shown in using it as many recover results notwithstanding. L. A. FLUCKE

Nobel E and Steinbach R Splenomegaly in
Childhood (Z kl ik d Splenomegalie m
A desalter) 71 h f A nd h 914 x 76
By Surg Gy cc & Obst

Splenectomy is indicated not only in Banti disease but in Haemochromatosis of the liver and in haemolytic icterus. Nobel and Steinbach describe a case of a successful splenectomy for cirrhosis of the liver in a child of 8. The icterus disappeared eight days after the operation and the enlarged liver decreased markedly in size. The patient returned home so that the case was not followed any further. Eppinger has recently collected the cases in which splenectomy has been performed for hyper trophic cirrhosis of the liver and they show that the operation is justified. A histological picture of the spleen in these cases is given showing a marked increase in connective tissue. The changes are similar to those in Banti disease which shows many points of similarity to cirrhosis of the liver. The similar result of splenectomy also indicates a relationship. But of course the two conditions are not identical though being many points of difference in their symptomatology and course but it seems certain that the spleen plays a part in the pathogenesis of both.

They further describe two cases in which splenectomy was performed for hæmolytic icterus. This disease may be acquired in very early youth. Banti performed splenectomy in hæmolytic icterus with success since then it has been successfully performed by numerous surgeons. It is most successful in the familial form but Micheli has reported good results in acquired hæmolytic icterus. The two cases reported by the authors were the acquired form. The icterus disappeared soon after the operation and did not return. Anæmia was no longer perceptible and the results of splenectomy have caused many authors to believe that the spleen plays the

chief part in the pathogenesis of hæmolytic icterus. Others have pointed out that the early improvement does not persist so that there must be a primary change in the red cells or defective function of the bone marrow, but Eppinger holds that a supernumerary spleen of lymph glands may enlarge and assume the pathological function of the spleen.

Sometimes adhesions form after the operation that result in serious consequences for the patient. In the second case described they finally caused death. This must be taken into consideration in deciding the indications for the operation.

A. Goss

SURGERY OF THE EXTREMITIES

DISEASES OF THE BONES JOINTS MUSCLES TENDONS CONDITIONS COMMONLY FOUND IN THE EXTREMITIES

Barri G. Cancellous Bone Lesions. *Am. S. & P. Phil.* 915 1st 229. By Surg. Gynec. & Obst.

In a well illustrated article the author reports 20 cases of cancellous bone involvement which he classifies in three groups:

- 1 Metaplastic osteomalacia — systemic lesions
- 2 Hemorrhagic osteomyelitis — local lesions
- 3 Osteochondroma — congenital tumor

The case reports are preceded by extensive references to the literature.

The first group includes three cases, two in children. The blood was negative to all tests. Both children gave histories of frequent falls, in one case resulting in fracture of the femur for which osteotomy was done. No involvement of the bones above the pelvis was noted.

The second group comprises localized inflammatory processes of the long bones resulting in areas of either solid granulation tissue or of fibrocytic or wholly cystic formation depending on the stage of reaction present. The etiology is probably trauma causing localized destruction of bone trabeculae with dilatation and vasculature of the vessels lying in nutritional disturbances and further destruction from pressure necrosis. Inability to reconstruct the cancellous bone results in localized hemorrhagic osteomyelitis in which the metaphyseal processes are practically absent, the reaction is of the characteristics of primary granuloma tissue. The author refers to his other reports of these cases in which he has shown that the stimulant reaction is sufficient to prevent further bone destruction, to absorb all debris and to form a more or less dense bony wall about the cavity which then persists. In 6 cases which the author has seen recently the long bones have been involved and one case was in the ilium. Ten cases have been operated upon, one having undergone amputation. The others all have healed per primam and the results have been

recurrences. Wassermann and tuberculin tests were negative and the X-ray showed the lesions varying in size from a coffee bean to a large goose egg.

The third group represents a true tumor possessing the potentialities for sarcomatous degeneration. Only one case was observed occurring in a boy of twelve, the degeneration being located in the upper end of the femur. The growth showed osteochondromatous structure without evidence of malignancy.

C. E. Wells

Curle D. Studies in the Etiology and Prevention of Rickets. *Med. Con. ed.* 10 5 22 46.

By Surg. Gynec. & Obst.

The author believes that rickets is the most important underlying cause of infant mortality and that it is usually caused by improper diet during the first three months of life. The so-called infant foods usually contain too high a percentage of carbohydrates and too low a percentage of fat. If rickets is to be averted in the future a new ideal of what constitutes a properly developed child must be reformed in the minds of the parents and guardians. They must be taught that the large box head, protruding abdomen, overly fat extremities and rapid increase in weight are signs not of health but of disease. In the treatment of rickets beyond an occasional dose of calomel, gray powder or castor oil to clear the bowel of decomposed food and assist in reducing hyperthyreism, drugs have been found of little necessity.

Dr. Forest P. Williams

Carmichael R. D. and Fisher A. O. Multiple Congenital Osteochondromata. *Am. S. & P. Phil.* 915 1st 4. By Surg. Gynec. & Obst.

A case is reported of a man 30 years old who presented an abscess over the left tibia and multiple hard tumors all over the body. The history showed that some of them had been present at birth, growth having been noticed at 10 years, being most rapid from 6 to 12. The resulting deformity of the arm had necessitated giving up his

manual labor. No fractures had occurred and there were no objective symptoms. Tumors were found all over the skeleton chiefly at the epiphyses the face and skull not being involved. Examination showed a thin outer shell of hard bone surrounding a spongy trabeculated area containing a cavity lined with a distinct fibrous membrane. The authors conclude that the condition represents the result of an abnormal and misplaced growth of cartilage which has undergone cystic degeneration.

C. I. WELLS

Becker G. Isolated Disease of the Semilunar Bone (Die isolierte Erkrankung der Mondknochen). Besondere Berücksichtigung der Unfallverletzungen. *Beit. kl. Ch.* 94: 1-7. 1913. S. 93. G. & C. Obst.

In an extensive article the author discusses a clinical picture the origin of which quite often becomes the subject of dispute in regard to workmen's compensation. It is a disease of the semilunar bone of the wrist. According to Kienbock and several others who have studied the subject rather extensively a severe trauma is not necessary and the patient may forget entirely that he had a wrist injury to the wrist whatsoever. The disease manifests itself with pain and swelling of the wrist with limitation of motion and strength. X-ray examination will reveal rarefaction of the bone less firm structure crumbling away of edges and may even lead to fracture of the bone into two or more parts. It has been held that this condition was due to a primary fracture of the bone itself with later rarefaction and disintegration of certain parts. This condition however has been demonstrated repeatedly in cases in which no history of trauma could be elicited or was elicited only after the suggestion had been made to the patient. It must be borne in mind that from a medicolegal point of view these latter cases are important since if the disease is induced by some light trauma obtained at work the patient is entitled to liability under the compensation act. If however no history of trauma to work is obtainable it is hardly fair to hold the employer liable for the disease.

After a tentative examination of more than 400 wrist joints Kienbock believes that this disease can occur without trauma severe enough to compel the patient to quit work immediately. His explanation for it is that the patient receives a slight trauma sufficient to injure the ligament bearing the blood supply and so depriving the bone of its proper nourishment after which the disease develops. In this view the author concurs and reports a series of 2 cases in which points bearing on this conception of the disease are brought out. The origin of the disease can be attributed to injury at work only if a clear history and record of such injury are obtainable and recorded. A clear history and record after any injury is important and should be made in each case.

L. A. J. J. J.

FRACTURES AND DISLOCATIONS

Oehlecker F. The Volar Luxation of the Os Lunatum—Perilunar Dorsal Luxation of the Hand—with Fracture of the Os Triquetrum (Über die volare Luxation des Os Lunatum—perilunäre Dorsalluxation der Hand—mit Abbruch des Os triquetrum). *Beit. z. kl. Ch.* 19: 4. 1913. S. 148. By Surg. Gynec. & Obst.

The two most common injuries of the wrist are the fracture of the os naviculare (navicular bone) and the volar luxation of the os lunatum (semilunar bone). They are frequently associated with fracture of the styloid processes of the radius or ulna and with fracture of the epiphysis. This is not at all unusual as all of the mentioned injuries are due to the same or very similar injuries—a fall upon the extended dorsally flexed hand.

The isolated volar luxation of the semilunar is a typical wrist joint injury second in frequency only to the transverse fracture of the navicular bone. Although the accident which may result in any of the above mentioned injuries is a fall upon the extended hand nevertheless the trauma which produces an isolated luxation of the semilunar has its peculiarity. In the first place the trauma producing a luxation of the semilunar is much more severe than that producing the typical Colles or other radial fractures. Secondly the dorsal flexion of the hand must be extreme so that the radius at the moment of impact is almost vertical with the ground whereas in a Colles fracture the arm strikes the ground at a more acute angle. Thirdly the hand usually is held in abduction or ulnar flexion in which position the semilunar has moved a little toward the radial side directly in front of the oncoming radius.

In discussing volar luxation of the semilunar it is important to know exactly what is meant. In many cases have been described as such which in reality are dorsal luxations of the hand around the semilunar.

The author takes the view of Kienbock that it would be advisable to call the volar luxation of the semilunar perilunar dorsal luxation of the hand. The complete volar luxation of the semilunar is but further stage of the perilunar dorsal luxation of the hand. When at the time of injury the hand is luxated dorsally around the semilunar and the head of the os capitatum is hooked behind the semilunar further force exerted will drive the semilunar toward the volar side and the navicular bone and os triquetrum return to their normal articulation unless the injury to the ligament has been very great.

With the luxation of the semilunar numerous ligaments are stretched and torn. The dorsal ligaments and the volar ligaments are usually torn whereas the powerful ligament between the radius and the volar surface of the semilunar is usually retained. Around this ligament the semilunar turns toward the volar side if a perilunar dorsal luxation of the hand is converted into volar luxations of the semilunar.

of 7 cases in which soft parts were implanted and of 9 in which there was no such implantation. Careful microscopical examination of specimens was made after 17rd and the authors come to the conclusion that the result is the same whether soft parts are implanted or not.

There was no difference either in the clinical course or the anatomical picture that would justify this surgical procedure. The implanted flap adheres to the bone wound the muscle is replaced by connective tissue and the renewed function of the joint creates a new joint cavity. The flaps adherent to the two free edges separate and the movement of the joint keeps the cleft open. The connective tissue nearest the joint becomes differentiated into a tissue that has all the characteristics of endothelium. In the cases where simple resection was performed the wound secretion was discharged into the old joint cavity was infiltrated with round cells and finally became organized into connective tissue. Here too the continuity of the young tissue was interrupted by the reestablished joint function and the inner layers next the joint surfaces were transformed into endothelium. Histologically the result is the same the formation of fibrous joint surfaces in one case by connective transformation of the muscle in the other by organization of the exudate and the formation of a secondary joint cavity by function with transformation of the intercellular layers into a covering resembling endothelium.

A. Goss

ORTHOPEDICS IN GENERAL

Billing R. W. Static Foot Disorders J T

St 14 4 9 5 4 By S. R. G. & Obst

The author discusses the diagnosis and management of the various degrees of static foot disorders.

The author prefers the term foot strain covering all the disorders weak foot and flat foot denoting different degrees of strain. He considers four varieties of flat foot.

1. Improper use of the normal foot due to walking on the toes and too far out the reaction of which together with the use of properly made shoes and certain simple foot exercises is sufficient to give relief.

2. In the variety the ligament is maladjusted and relaxed the weight of the body forces the feet into the attitude of deformity the navicular scaphoid region being unduly prominent. These feet are flexible at the midtarsal joint. In the patient bringing the foot to the normal position there may be only slight or no disability. Treatment consists in the proper attitude in standing and walking a rise to develop the deductors in the foot with weight on the inner half of the sole to throw the weight to the outer border of the foot. In some cases an arch support or a heel plate is necessary.

3. This is an exaggerated type of the second class. Voluntary movement in any direction of the foot is limited and painful due to muscular spasm and sensitiveness of the tarsal ligaments and articular surfaces pain and disability are marked the gait is stiff and the circulation is poor. These feet need rest for several weeks. Following this any support applied must be so constructed as to put the weight bearing line correct and then massage and active and passive exercises to strengthen the weak tissues will give satisfactory results.

4. Here there are organic changes in the bones and joints the astragalus has slipped downward and inward the os calcis is everted and all the bones are fixed by the accommodative changes in the bones joints and ligaments. The foot is pronated rigid and the long arch is depressed. In this variety forcible manipulation under anesthesia to break up adhesions and to mold the foot into an exaggerated correct position is first necessary followed by rest for several weeks. Then proper arch support with muscle training and strengthening exercises are to be followed out for some time the arch support being discarded as soon as practicable.

Anterior metatarsalgia or Morton's disease due to weakness of the transverse or anterior arch is also discussed. Painful heel an interesting complication of foot strain due also to gonorrheal and other infectious agents is likewise mentioned.

H. W. Wulcox

Syring Relation Between Flat Foot and Tuberculosis (Benzel & N. W. Plattschuss) D F. 14 4 9 5 4 By S. R. G. & Obst

Syring calls attention to the fact that the symptoms of flat foot especially when unilateral and when they have developed after trauma should arouse a suspicion that the flat foot is not idiopathic but is symptomatic of a beginning tuberculosis of the foot. In tuberculosis of the tarsus the subjective and objective symptoms of flat foot are very frequently found the early stage this is particularly true in tuberculosis of the articulation between the astragalus and scaphoid. It is only in children that beginning tuberculosis of the foot manifests itself as talipes equinus in adults and more especially in young adults it appears rather as planus or valgus position of the foot which only develops into talipes equinus in late stage.

Thus there is great danger of confusing flat foot in the independent sense and flat foot as merely a symptom of tuberculosis of the foot. Shown by Gross statistics on flat foot in 10 per cent of the cases of tuberculosis of the foot the diagnosis of flat foot was made in the beginning of the disease. If make different diagnosis the foot should be given rest in an elevated position for two or three weeks. If it is a flat foot the well-given and pain will disappear within that time persistence of the symptoms indicates tuberculosis. Moreover free

quent roentgen pictures should be taken in all possible positions of the foot. If it is tuberculosis a tuberculous focus will probably be found or at least the bone will show atrophy. If tuberculosis is demonstrated it should be treated by partial resection of the articulation between the astragalus and scaphoid.

A Goss

Katzenstein M. Tanning the Ligaments in the Treatment of Flat Foot and Other Deformities (Die Gerbung der Bänder u. r. Heilung des Plattfüßes und anderer Knochen- und Bandenverformungen). *Deutsche med. Wochenschr.* 9:421, 3.

By S. G. Gyner & O. L.

The author describes several cases of luxation of joints which he demonstrated to be due to abnormal laccidity and loss of elasticity of the joint ligaments.

In one case he replaced the flaccid tibioscapoid ligament by a flap of perosteum with complete success. He tried such a plastic operation on the ligaments of flat foot but decided that it was not indicated in these cases. For the tibioscapoid ligament was not torn as in the traumatic case on which he operated but only flaccid and overstretched so he tried to devise a means of bringing the ligaments back to their normal condition. He does this by injecting 0.5 to 1 ccm of 4 per cent formalin into the ligament under local anesthesia. He corrects the position and puts the foot in a plaster cast for three or four weeks and on taking it off finds that the ligaments have grown much firmer. He has used the method with excellent results in a number of cases and gives a photograph of a child of five with a normal foot corrected in this way.

A Goss

SURGERY OF THE SPINAL COLUMN AND CORD

Sharpe N. Spina Bifida. *Am. Surg.* Phila. 9:5.

By S. G. Gyner & Obst.

The author declares his adherence to the pressure theory as the cause of spina bifida and gives clinical and experimental evidence in support of it. The choroid plexuses which secrete the cerebrospinal fluid begin their function in the second month of fetal life. The closure of the neural canal takes place at the third month the lumbar region being the latest to close therefore increased pressure caused by excessive secretion of fluid at this time will seek outlet at the point not yet closed—the lumbar region. Statistics show that 86 per cent of cases are in the region.

Most embryologists accept the theory that failure of the mesoderm to close over the neural canal is the cause of the deformity. Other theories of less importance are those of amniotic adhesion, tumor formation in the central canal and exaggerated curvature of the fetal spine interfering with development.

The author was able to produce artificial spina bifida in dogs and rabbits by creating excessive pressure either by compressing the brain through cranial openings or by intradural injection after laminectomy in the lumbar region. He states that this does not prove the pressure theory but shows that the condition may result from pressure. The commonest type occurring in 70 to 80 per cent of all cases is myelomeningocele in which the cord is almost fully formed but adherent to the skin the dura extends only to the bony defect the meninges of the sac being a fusion of epithelium with the arachnoid and pia. Other forms are rachischisis in which the cord is unformed with the central canal open sometimes accompanied by anencephalus, meningocele, syringomyelocele and not spina bifida in which the sac may be in the abdomen or pelvis usually in females and spina bifida occulta.

Open operation is generally recognized now as the

best form of treatment. Contra indications to operation are a bony defect too large to be repaired and absolute paraplegia. Over 90 per cent of the cases die in the first year if untreated but many apparently hopeless cases have recovered after operation.

Seventy operated cases are reported: meningocele with hydrocephalus, myelomeningocele with hydrocephalus, myelomeningocele with almost complete paraplegia resulting in death and spina bifida occulta with paralysis. There were 3 deaths. The other cases were improved or cured by the operation.

W. A. Clark

Taylor J. D. Bifida Cranium and Spinal. *J. La. et G.* 9:13, 22, 89.

By Surg. Gyner & Obst.

In a general practice of 30 years the author encountered 4 cases of bifid cranium and spina bifida of the cranium are classified as meningocele, cephalocele, hydrocephalocele according to the contents of the sac. Those in the pine are classified as spinal meningocele, myelomeningocele and myelocystocele.

Surgery of all of the above conditions has proved unsatisfactory except in meningocele and in this the death rate at the low end is 30 to 40 per cent. Complicated operations with osteoplastic flaps have been devised but Taylor used only simple methods.

Two cases reported were meningoceles of the occipital region one the size of an egg the other the size of the child's head. In both an incision was made through the scalp at the base of the tumor which was then ligated and removed. The line of incision was whipsitied with catgut and dropped into the opening the scalp being sewed together over it. Both children were normal mentally and otherwise at four and 12 years respectively. Only a very small plate could be felt at the point of bony deficiency.

One case of meningocele in the lumbar region was treated as above and at the end of two years only a slight opening could be discovered with no protrusion. There was no paralysis.

Case four an apparently perfect child at 20 months of age developed a tumor two inches from the spine just above the left buttock. Physicians diagnosed it as a lipoma. On operation for removal the true nature of the trouble was discovered when clear spinal fluid escaped. The sac was enucleated to its neck ligated with plain No. 3 catgut and removed. The stump was whipstitched with the same material and the muscle sutured over it. Leakage occurred on the third day the catgut being almost completely absorbed. A chromic gut was used to close the sac and muscle the second time. Leakage being again noticed a few days an American steel spring truss with circular back pad was placed over it for a week when removed the wound was completely closed. This case is too recent to pass judgment upon. C. A. STONE

Ryerson E. W. Recurrent Spondylolisthesis with Paralysis. Bone-Spinal Transplantation. *J Am Med Ass* 9 5 121 24. By Surg. Gynec. & Obst.

The author reports an interesting case of recurrent spondylolisthesis associated with a spastic paraplegia of the fifth lumbar vertebra which was treated by a bone graft after the method of Albee.

The patient a female aged 15 previously healthy fainted after an unusual strain and complained of pain in the lower spine. A week later pain extended down the back of the thighs and she was unable to walk. The knee jerks were increased a slight ankle clonus developed and the condition was considered one of spastic paraplegia. Double Buck's extension relieved the paralysis and after observation she was allowed to return home and was cautioned against lifting and overexertion.

In a few days she stumbled and the paralysis recurred. Extension again brought relief and a plaster of Paris jacket was applied. An attack of ptomain poisoning necessitated the removal of the jacket by the family physician in a few days and attacks of paralysis recurred about every ten days until she was finally confined to bed.

The author examined the case ten months after she had passed from his care and found that the fifth lumbar spinous process slipped forward in backward bending, causing pain in the back and tingling to the toes. Relief was experienced on forward bending in which position she preferred to lie and sleep.

An Albee transplant was performed extending from the third lumbar to the third sacral. Number 2 braided silk suture were used and the graft was covered by a layer of lumbosacral fascia. The patient put in an ordinary bed. Contrary to orders she sat up the third week and examination three months later showed that the upper end of the graft was loose. At this time there was no evidence of paralysis and the lumbosacral joint was firmly

fixed. The upper end of the graft was anchored a plaster jacket applied and the patient was apparently completely relieved. H. W. MEYERBRO

Breton P. Le Congenital Lateral Curvature of the Spine. *Publ. et al.* 1915 2 111 73. By Surg. Gynec. & Obst.

It has been proven that lateral curvature of the spine may be caused by congenital defects of the bony framework. The most common abnormality is an alteration of the articular processes especially in the lower lumbar vertebrae. The defect may involve only one process or may affect processes and bodies of a number of vertebrae. In the history of such cases curvature is usually noted early—before the fifth year. It progresses steadily becoming more marked about the fifteenth year. In the cases with lumbar defect and upper compensatory curvature the prognosis is usually good. In cases of dorsal defect in which the curve is apt to be sharp with rigid rotation corrective treatment is usually ineffective. DR. FOREST P. WILLARD

Bingham A. H. The Surgical Treatment of Pott's Disease. *N Am J Homoeop* 1915 xxx 64. By Surg. Gynec. & Obst.

Bingham briefly discusses the treatment of Pott's disease. For many years horizontal fixation was used until pain was relieved. This was accomplished with casts and apparatus after which a suitable jacket cast or other device was worn for years to prevent motion which was a thing impossible to attain.

He mentions Hader's method in which the spinous processes are fixed by wiring. Langes in which steel plates are subcutaneously placed on each side of the vertebral column. Hibb's in which the spinous processes are split stripping the supraspinous ligament and periosteum from each side of the process the spines being broken down on each other forming a bridge of bone ultimately.

The latest and best method of treatment is that of Albee in which absolute fixation is attained with a rapid cure of the condition.

The operation is begun by making a curved incision on one side of the kyphosis the cartilaginous tips, supraspinous and interspinous ligaments are split to three fourths of an inch then with a mallet and chisel the spinous processes are split the same distance each half being broken outward leaving a wedged shaped cavity.

A hot compress is placed over the kyphosis while a similarly shaped piece of bone is removed from the tibia this graft having marrow bone and periosteum.

The periosteum is incised in several places to allow the exit of osteogenic cells. The graft is placed in the wedge shaped cavity and held in place by kangaroo tendon sutures which pass through the ligaments and over the back of the splint.

The sutures should produce considerable tension which helps to straighten the deformity. In a very

short time following the operation all pains and symptoms disappear. The patient lies in the recumbent position on a fracture bed for a period of 5 to 12 weeks after which he can walk without a support.
J H Su w

Rodman J S: Surgery of the Spinal Cord P N
M J 19 5 xviii 349 By S rg Gynec & Obst

The author makes a plea for more interest in surgery of the spinal cord. He cites a number of

pathological conditions that justify intervention. He recommends a simple laminectomy done swiftly and with a minimum handling of the cord.

He reports two cases of tumor of the cord and describes the technique of their removal. Operating in two stages is advised for intradural tumors. He discusses rhizotomy for relief of pain and spasticity and reports four cases in which rhizotomy was done for relief of pain and three cases in which it was done for spasticity.
JAMES O WALLACE

SURGERY OF THE NERVOUS SYSTEM

Erlacher F: Experimental Study of Plastic Operation and Transplantation of Nerv and Muscle (Experimentell Untersuchungen über Plastik und Transplantation von Nerv und Muskel) Arch f
Ch Ch p 5 389

By Surg Gynec & Obst

In Erlacher's first series of experiments he split the biceps brachii longitudinally and separated it from the underlying tissues. The motor nerve was cut as far toward the periphery as possible and both nerve and muscle were left in position. He found that the nerve regenerated rapidly with an extraordinary overproduction of fibers. At the end of 16 days there was often complete restoration of the motor end plates. A flap of muscle separated from its surrounding tissues may be sufficiently provided with nervous elements from the intact nerves of the surrounding muscle so that it quickly undergoes degenerative changes, but later under the influence of the regenerated nerve fibers, there is progressive regeneration so that at the end of six weeks it is restored anatomically and functionally. All nerves in the separated part of the muscle degenerate in a short time and are absorbed.

In a second series of experiments the musculocutaneous was cut just before its entrance into the biceps brachii and resected as high up as possible. Then flaps with pedicles from the pectoralis major and deltoid were sutured into a cleft in the biceps. The object was to find out whether the function of the muscle whose nerve had been cut could be restored in this way. At the end of 60 days the muscle had regained its normal red color and there

was advanced regeneration though the muscle still appeared a little weaker than normal. The regeneration was not due to restoration of the cut in the musculocutaneous because the biceps of the other side where no muscle flaps had been transplanted, showed no regeneration. Therefore it is shown that it is possible to neurotize a paralyzed muscle by bringing it into contact with a normal muscle.

The author describes a case of paralysis of the tibialis anticus after poliomyelitis in which he used this method successfully. He thinks the procedure will not replace tendon transplantation but will give good results in cases where satisfactory tendon transplantation is impossible.

In another series of experiments flaps were cut from the biceps brachii on each side transplanted to the opposite side and sutured. In all the cases the transplant took without any reaction. There was first degeneration of muscle tissue, but this was followed by regeneration as the transplanted muscle became provided with nerves. After 99 days electrical test showed that the transplanted muscle reacted normally to stimulation. This length of time is required because first the nerves must regenerate and then the muscle.

A final series of experiments was carried out in the free transplantation of nerves. It was shown that free transplantation of nerves cannot be successfully performed although restoration of the peripheral part of the nerve takes place after section. Preservation of the nerve sheaths is not absolutely necessary to the penetration of muscle fibers by motor nerves.
A Goss

SURGERY OF THE SKIN, FASCIA AND APPENDAGES

Schoene G: Deep Growth of Epithelium After a Thiersch Transplantation (Über Tiefwachstum des Epithels nach Thiersch-Verpflanzen Epidermislappechen) Beitr M Ch 915
xiv 317 By Surg Gynec & Obst

Davis recently reported a case of excessive thickening of a Thiersch graft caused by scarlet red

fever. The thickening was not due to the scarlet red as is shown by the fact that it occurred in a second case after simple dry dressing was used. Such cases probably occur frequently. References are given to three articles in addition to Davis.

The deep growth of the epithelium has always been noted in cases in which the transplant was

applied immediately over the granulation. The granulating surface is irregular and the spaces between the projections fill up with plasma into which the epithelium proliferates. This process has no great practical significance except that it

may sometimes be desirable to produce thickening of the Thiersch grafts.

Examination of the first case after one and one half years showed no malignant change such as Davis thought might occur. A. Coos

MISCELLANEOUS

CLINICAL ENTITIES — TUMORS ULCERS ABSCESSSES ETC

Wolfsohn G Tetanus (Zur Tetanose) Berl
H Wsch 914 xix 883
By Surg Gynec & Obst

Of 29 cases of tetanus treated in a military hospital 27 died. The two cases that recovered had a long incubation period and did not receive serum. In 26 cases the serum was used according to all methods recommended — subcutaneous intramuscular intralumbal intravenous perineural — all with the same lack of success. Magnesium sulphate in a 20 per cent solution given 10 to 15 gr doses did not produce any definite results. Symptomatically and perhaps therapeutically as well chloral hydrate in 10 gr doses serves first mention. Even though the author himself believes in the therapeutic value of the serum his experience convinces him of its prophylactic value.

L. A. J. JENSEN

Kreuter: Report on Thirty One Cases of Tetanus Following Wounds Received in Battle and Treated by the Combined Intraspinal and Intravenous Methods of Giving Antitoxin (Bericht über 31 Tetanische Kriegsverletzte gen. eingehtl. intraspinal d. tra nos m Serum behandelt) München med Wch 914 I 2 55 By Surg Gynec & Obst

Mild cases with long incubation periods received intravenous injections only. Severe cases with a short incubation received in addition intralumbal injections. The intravenous dose being repeated every 2 hours up to 600 AE daily. No harmful serum reactions were noted. Intralumbal injections were done under chloroform anesthesia usually but once a day and in some cases repeated on 6 consecutive days. In some cases 400 to 400 AE were used.

An almost immediate action of the serum on the intensity and frequency of the convulsions was noted in a large number of cases. Of 14 patients with an incubation period up to 10 days 5 were cured of 17 with an incubation period over 10 days 5 were saved. This means a mortality of 14 in the first instance of 63 per cent and in the second of 1 per cent or a general mortality of 14 per cent. The statistics of Tetanus for comparison: In the last period are as follows without serum 95 per cent mortality with serum 73 per cent for the second class without serum 10 per cent with serum 40 per cent — a general mortality of 9 per cent without

serum and 58 per cent with serum. The results under the treatment practiced by the author are therefore much better than those formerly obtained. Two of the fatal cases had amputations before tetanus developed — another proof that amputation is of no avail. L. A. JENSEN

Kreuter: Several Important Practical Aspects of Tetanus (Über einige praktische wichtige Gesichtspunkte in der Tetanose) München med Wchchr 1914 XI 2045
By Surg Gynec & Obst

The author recommends the prophylactic use of large doses of serum in all cases of suspicious wounds. Doses of 100 AE rather than the former small one of 20 AE. As initial symptoms other than trismus one should look for dysphagia and local tetanus in the injured extremities. In the treatment amputation for the removal of the local infection is useless. Local application of antitoxin is also of little avail. The best preventive measure is intravenous serum injection to counteract toxins circulating in the blood stream supplementing this by intralumbal injections to intercept the conduction of poisons to the central nervous system which takes place along the nerves. In this way the further distribution of toxins is interrupted but the existing tetanic condition is not necessarily influenced. To effect this symptomatic treatment is indicated — morphine every 2 to 3 hours and at night 5 gr chloral hydrate per rectum. Magnesium sulphate injections are not strongly recommended on account of the occasional respiratory disturbances attributed to them. The carbolic acid method of Baccelli does not merit discussion. L. A. JENSEN

Dreyfus, I The Treatment of Tetanus (Die Hebehandlung des Tetanus) Ther M 1914 No 1 By Surg Gynec & Obst

This is a comparison of the different methods of treatment with a recommendation for the flooding of the system with large doses of antitoxin 500 AE per day. Local treatment of the wound deserves special attention. If narcotics are used they should be given very freely. Magnesium sulphate is best given subcutaneously and the total amount must be carefully regulated so as not to disturb the circulation. The carbolic acid method of Baccelli merits further investigation. When antitoxin seems to fail one should first try narcotics and carbolic injections and follow if necessary with magnesium sulphate treatment. L. A. JENSEN

Alexander K: The Treatment of Tetanus (Zu Behandlung des Tetanus) München m d
H k sch 19 4, xl 1 60

By Surg Gynec & Obst

The following method of treatment is recommended. The first day 100 AL serum intravenously and in the evening 10 gr chloral hydrate in 250 ccm of water per rectum. Second day 100 AL intra-lumbar in the evening 10 ccm chloral hydrate. Third day, 100 AL subcutaneously in the evening 10 ccm chloral hydrate repeating this treatment until the convulsions cease even if the trismus does remain. These large doses of chloral hydrate never produced bad results, and although they did not control the tonic rigidity the convulsive seizures the pain the high blood pressure and the increase in the pulse rate promptly subsided. In cases that had received only 5 gr chloral hydrate died. Light cases treated as outlined recovered. The incubation period varied from 0 to 9 days.

L A JUNKER

Angerer A.: Treatment of Traumatic Tetanus (Z Behandlung der Wundstarrkrämpfe) Wschr
chr med W k sch 19 4, xl 2 6

By Surg Gynec & Obst

Kocher's magnesium sulphate treatment was unsuccessful hence the following procedure is advised. Subcutaneous intralumbal or intravenous injection of 100 AE followed every 4 hours by similar doses intravenously. Symptomatic treatment consists of large doses of chloral hydrate 3 gr twice daily per rectum. By this method cures were effected in cases with an incubation period of 7 to 9 days.

L A JUNKER

Eunike W K: Treatment of Tetanus with Magnesium Sulphate (Zur Behandlung des Tetanus mit Magnesiumsulfat) M d k med Wschr
1914 xlv 225

By Surg Gynec & Obst

Treatment was carried out according to Kocher, consisting in intralumbal injection of 0.5 ccm of a 10 per cent solution supplementing serum therapy. In 5 severe cases there was no appreciable effect. In 2 cases there was definite reaction and twice in cases of lesser severity the results were surprisingly good.

L A JUNKER

Hochhaus: Experiences in the Treatment of Tetanus (Erfahrungen über die Behandlung des Tetanus) M d k med Wschr 1914 xlv 225

By Surg Gynec & Obst

Removal of the point of infection by amputation is useless. Of 5 cases thus treated even before the disease developed 4 died. From observations on 60 cases the author advises the following procedure: 1 prophylactic treatment of the wound and 2 subcutaneous injections of 50 AE serum if tetanus has developed the intralumbal injection of 100 AE repeated the following day and 3 similar doses subcutaneously on several subsequent days. The symptomatic treatment consists of morphine

and subcutaneous injections of magnesium sulphate (100 ccm of a 25 per cent solution in 24 hours or even 50 to 100 ccm of a 40 per cent solution). The carbolic acid method of Bacelli is advised only for the milder cases. Care in a quiet private room with freedom from external stimuli and with proper nourishment is of great importance. L A JUNKER

Kuhn: Treatment of Tetanus with Luminal (Über die Behandlung des Tetanus mit Luminal) Münch m med Wschr 19 4, xl 2 60

By Surg Gynec & Obst

This well known remedy so eminently successful in the control of convulsions of epilepsy the author has found of great value in the treatment of tetanus. The initial dose is 3 gr followed every 4 to 5 hours by gr with an evening dose of 3 gr making a daily total of about 1 gr. There were no signs of cardiac disturbances this constituting an advantage of luminal over chloral hydrate. Luminal sodium may be given subcutaneously.

L A JUNKER

Behring E. von: Indications for Serum Therapy in the Control of Tetanus (Indikationen für die serumtherapeutisch Tetanusbekämpfung) Deutsche med Wschr 19 4, xl 2 833

By Surg Gynec & Obst

In this study the following conclusions on the experimental investigations of serum therapy in tetanus and on the limits of its usefulness are of particular importance.

1 The tetanic symptoms are the expression of toxin absorption by the cells of the motor ganglia in the spinal cord.

2 The toxins are conveyed to the spinal cord only after the neurolemma absorption begins principally through the end apparatus of the motor nerves lying within the local area of infection and to a lesser degree through motor nerves that absorb toxins from the lymph and blood stream.

3 The central nervous system and the peripheral nerves do not absorb toxins from the blood.

From this it is clear that the antitoxin can reach and neutralize only that portion of the toxins which has remained unabsorbed at the areas of injection or toxin production and that other portion already circulating in the blood stream but not yet absorbed by the nerve ends. This explains why the subcutaneous and intravenous injections of antitoxin are so well as preventive but have very little curative value. A cure can be effected only if the application of antitoxin precedes the absorption of a fatal dose of toxin. Consequently the time interval between toxin and antitoxin injection determines the success. An intravenous dose of a toxin which were injected simultaneously with many lethal doses of toxin will effectively protect the experiment animal if it produces this effect if injected only a few minutes after the toxin. If an hour has passed 40 times the amount of antitoxin is necessary and after 5 hours 600 times the dose alone will save the animal.

For the treatment of tetanus von Behring advises surgical care of the wound with local injections of antitoxin followed by general serum therapy according to the directions accompanying von Behring's antitoxin. The prophylactic serum injection in all cases of suspicious wounds is by far the superior method of treatment.

SERA, VACCINES AND FERMENTS

Goodman C. A Preliminary Report on a Study of the Protective Ferments of the Blood by the Abderhalden Method After the Transplantation of Organs In Surg Phila 95 1x1 49
By Surg Gynec & Obst

A brief account is given of some experiments in the transplantation of different organs and the detection of a special blood ferment following the transplant. Fifteen plates are included in the article.

Carrel claims success in autotransplantation and only temporary success in homotransplantation while Lexer is said to have overcome some of the biochemical reactions between animals by preliminary treatment.

Blood vessel transplants invariably retain their vitality while the more complicated organs usually undergo atolytic changes and are absorbed. This may partially be due to deficient venous drainage as the transplant for a short time remains in a state of vasomotor paralysis and is overdistended with blood. In making a transplant crution should be taken to have the venous anastomosis tend to end which will give immediate venous drainage.

In the experiments the thyroid gland was resected and in two consecutive instances of a total implant was successful. In the homotransplants the thyroid invariably was also bed.

Out of 14 cases thus experiment d n in 8 there was demonstrated the presence of a fermentic pbl of digesting suprarenal tissue. The Al child n method of determination was used nif ther experiments are being made. PHILIPS M. G. H. 52

Lunckenbein Tumor Extract Treatment and Its
Results (Über Tumorextraktbehandlung der
Ergebnisse) B t Al d f k l k
Imm lal f sch 9 4 1 N 3
Iv Surz Gyné & Obst

But little of practical value has as far as related from tumor extract treatment. Still, how ever obtained a complete cure of a carcinoma of the vagina after total extirpation of the tumor by giving tumor extract intra-eneally. It must be stated however that malignant tumor has been influenced not only with specific but also with non specific but chemically harmless antibiotics. The reason for so many failures is probably due to the method of preparation of the extract to the method of application and the selection of cases treated. It is also an ill guided treatment.

The author explains the method of action as probably due to the simultaneous injection of specific albumin bodies with the extracts and that these specific bodies stimulate the organism to an increased formation of antibodies. He further believes that specific extracts are necessary. The intravenous method of injection is to be preferred. The results are better in sarcoma than in cancer. Of 6 inoperable sarcomata 2 were cured and 2 improved. In carcinoma the results are less favorable. In 4 cases of cancer of the esophagus the lumen became larger so that semisolid food could pass through it. Some improvement was obtained in the most variable cancers although some failures naturally resulted. The treatment with tumor extract should be investigated further until a solution of the problem is obtained. L. A. TURNER.

Fleisher M S and Loeb L: Further Investigations on the Mode of Action of Substances Inhibiting Tumor Growth and on Immunization Against These Substances. *J Exp Med* 915 xxi 355 By Surg Gynec & Obst

This study is based upon a large series of experiments and is confirmatory of results obtained in previous investigations made by the authors. In their previous paper they reported that combinations of colloidal copper and hirudin and of colloidal copper and nucleoprotein were much more effective than either of these substances alone and that these combinations not only caused an inhibition of the tumor growth but also retrogression of a considerable number of tumors. They also found that the combination of colloidal copper and hirudin was more toxic than either substance given alone.

The authors conclude that it is possible to increase markedly the effect of substances inhibiting tumor growth by using certain combinations of these substances which when given alone have some effect on tumor growth.

That immunity acquired against the effect of these substances depends partly upon an active immunization of the tumor cells themselves against the action of these substances and this immunity is transmitted to the following generations of tumor cells.

That the immunity against the substances inhibiting tumor growth is, as far as they have investigated the problem specific

That their later experiments provide a more secure basis for the additional animal experimental conclusions which they mentioned tentatively in their previous paper.

BLOOD

Gorbakowaky D The Antitrypsin Cont nt of
the Blood and Leukocytes in Laparotomy
(Diagnost sch Uters ch ge de A t rypsin g
H ltes d d Leukorytose be Laparotom)
H l Grö rtk G dt 9 4 46
By Zentralbl f d ges Gynäk Ch rth d Czernzeb

The author reports examination made on his
morose patient with reference to change in the

Alexander K: The Treatment of Tetanus (Zur Behandlung des Tetanus) *München med Woch* 1914 *lv* 2 60

By Surg Gynec & Obst

The following method of treatment is recommended. The first day 100 AE serum intracutaneously and in the evening 10 gr chloral hydrate in 250 ccm of water per rectum. Second day 100 AE intralumbal in the evening 10 ccm chloral hydrate. Third day, 100 AE subcutaneously in the evening 10 ccm chloral hydrate repeating this treatment until the convulsions cease etc. if the trismus does remain. These large doses of chloral hydrate never produced bad results and although they did not control the tonic rigidity the convulsive seizures the pain the high blood pressure and the increase in the pulse rate promptly subsided. Two cases that had received only 5 gr chloral hydrate died. Eight cases treated as outlined recovered. The incubation period varied from 10 to 19 days.

L. A. JONES

Angerer A: Treatment of Traumatic Tetanus (Zur Behandlung des Wundstarrkrampfes) *München med Woch* 1914 *xl* 2 26

By Surg Gynec & Obst

Kocher's magnesium sulphate treatment was unsuccessful hence the following procedure is advised. Subcutaneous intralumbal intravenous injection of 100 AE followed erythrocytes 12 to 4 hours by similar doses intravenously. Symptomatic treatment consists of large doses of chloral hydrate 5 gr twice daily per rectum. By this method cures were effected in cases with an incubation period of 7 to 9 days.

L. A. JONES

Eunike W K: Treatment of Tetanus with Magnesium Sulphate (Zur Tetanusbehandlung mit Magnesiumsulfat) *München med Woch* 1914 *xlv* 2 5

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Treatment was carried out according to Kocher consisting in intralumbal injection of 10 ccm of a 10 per cent solution supplementing serum therapy. In 5 severe cases there was no appreciable effect twice there was a definite reaction and twice in cases of lesser severity the results were surprisingly good.

L. A. JONES

Hochhaus: Experiences in the Treatment of Tetanus (Erfahrungen über die Behandlung des Tetanus) *München med Woch* 1914 *xl* 2 53

By Surg Gynec & Obst

Removal of the point of infection by amputation is useless. Of 3 cases thus treated before the disease developed 4 died. From observations on 60 cases the author advises the following procedures. Prophylactic treatment of the wound and 1 to 2 subcutaneous injections of 100 AE serum if tetanus has developed the intralumbal injection of 100 AE repeated the following day and similar doses subcutaneously on several subsequent days. The symptomatic treatment consists of morphine

and subcutaneous injections of magnesium sulphate (100 ccm of a 25 per cent solution in 24 hours or even 60 to 100 ccm of a 40 per cent solution). The carbolic acid method of Baccilli is advised only for the milder cases. Care in a quiet private room with freedom from external stimulus and with proper nourishment is of great importance. L. A. JONES

Kuhn: Treatment of Tetanus with Luminal (Über die Behandlung des Tetanus mit Luminal) *München med Woch* 1914 *li* 260

By Surg Gynec & Obst

This well known remedy so eminently successful in the control of convulsions of epilepsy the author has found of great value in the treatment of tetanus. The initial dose is 3 gr followed every 4 to 5 hours by 1 gr with an evening dose of 3 gr making a daily total of about 1 gr. There were no signs of cardiac disturbances the constituents an advantage of luminal over chloral hydrate. Luminal sodium may be given subcutaneously. L. A. JONES

Behring E. von: Indications for Serum Therapy in the Control of Tetanus (Indikationen für die Serumtherapie beim Tetanus) *Deutsche med Woch* 1914 *li* 833

By Surg Gynec & Obst

In this study the following conclusions on the experimental investigations of serum therapy in tetanus and on the limits of its usefulness are of particular importance.

1. The tetanic symptoms are the expression of toxin absorption by the cells of the motor ganglia in the spinal cord.

The toxins are conveyed to the spinal cord only along the neurolemma. Absorption begins principally through the end apparatus of the motor nerves lying within the local area of infection and to a lesser degree through motor nerves that absorb toxins from the lymph and blood stream.

2. The central nervous system and the peripheral nerves do not absorb toxins from the blood.

From this it is clear that the antitoxin can reach and neutralize only that portion of the toxins which has remained unabsorbed in the areas of infection or toxin production and that other portion already circulating in the blood stream but not yet absorbed by the nerve ends. This explains why the subcutaneous and intravenous injections of antitoxin act so well as a prophylactic but have very little curative value. A cure can be effected only if the injection of antitoxin precedes the absorption of a fatal dose of toxin.

Consequently the time interval between the onset of antitoxin injection determines the success. An intravenous dose of antitoxin which when injected simultaneously with many lethal doses of toxin will effectively protect the permanent mortality rate produce this effect if injected only a few minutes after the toxin. If an hour has passed the time this amount of antitoxin is no longer saved after 5 hours 600 times the dose also will save the animal.

cirrhosis of the liver illuminating gas poisoning pernicious anemia and hæmophilia. He thinks that more cases of idiopathic epilepsy should be transfused and he recommends that they first be depleted and then transfused once or twice a year.

The methods advocated by Crile, Brewer, McGrath and others do not provide for measuring the amount of blood transfused and while Deavor believes that it is not necessary to be so accurate as to the amount transfused it is best to keep within the limits of safety for there are some cases that require only small amount. He prefers a lender person as the donor and because of the living power of the heart he uses the radial artery when using the cannula described below.

The two greatest disturbing factors which recur where claiming the experimenters' attention are hæmatolysis and early coagulation of the blood. Deavor has found that the cannula must not be lined with paraffin or other protective substances but that it is effectually lined by the blood serum and if the air is excluded and the body temperature kept constant by means of hot sponges the cannula will remain patulous indefinitely. On the strength of these findings he recommends the use of two small cannulas connected by a piece of rubber tubing. The entire tube or transmitter should not be over 5 inches in length and it should be free from sharp curves and angles. When ready to make the anastomosis the blood should not be exposed to the air but the vessels and tube should be protected by hot saline sponges. As nearly as possible the caliber of the tube should correspond to the vessel. He employs the spurt method to determine the amount of blood used. The blood is allowed to pass a small graduate if it takes 5 spurts to reach the drachm mark each spurt will contain 12 drops and a pulse of 80 will therefore discharge 2 ounces in one minute. This is a simple device and efficiently accurate.

His conclusions are as follows:

1 Blood may be carried from one individual to another through unlined metallic or rubber tubing if kept at body temperature and the anastomosis done promptly.

2 The amount of blood passing or may be accurately determined if the donor pulse rate and the quantity discharged by a series of ventricular contractions be known.

3 The field of application should be enlarged.

4 The blood after transfusion immediately taken up by the recipient and used blood in the absence of course of hæmolysis.

5 The use of whole arterial blood transfusion has been so satisfactory that the complicated process of defibrination has been abandoned.

6 The method which can be applied with the slightest disturbance is preferable.

7 Blood transfusion is not a cure but rather a therapeutic help to other means of treatment.

8 Blood transfusion is not devoid of danger.

Lewis B. Crawford

POISONS

Schottmüller H. and Barfurth W. The Bactericidal Action of Human Blood in Regard to Streptococci as an Indication of Their Virulence (Die Bakteriende des Menschenblutes Streptokokken gegenüber als G. admitter ihrer Virulen). *Bull. d. Akad. d. Med. Wiss. u. d. Naturh. Hist.* 1914, Nos. 1 and 2.

By Surg. Gynec. & Obst.

The authors endeavored to determine whether human blood has a variable bactericidal action against the different streptococci and whether this bactericidal action can be taken as an indication of their virulence. It was determined that considerable variation existed. The blood possesses a powerful bactericidal action against certain strains of streptococci (streptococcus viridans and the non hæmolytic group) to which anærophilia is a common characteristic. On the other hand others like streptococcus erysipelas mucosus—lactici pneumococci and streptococcus herbidus are very resistant against the blood. In this variable bactericidal action we have an indication of the virulence of the bacteria without being able to state anything definite however regarding the individual case. We can only state which strains may induce a severe infection but the point of infection must also be considered. The bactericidal action is greater in oxygen containing blood than in carbon dioxide containing blood. All factors which decrease oxidation also decrease the bactericidal action of the blood. Some of the important factors are high water content of the blood and decreased number and resistance of the erythrocytes. The bactericidal action is greater on the living organism than *in vitro* due probably to the constant oxygen content of the blood. L. A. JOURNAL.

SURGICAL THERAPEUTICS

Waterhouse H. F.: A Report on the Employment of Ether in Surgical Therapeutics. *Brit. Med. J.* 1915, 33.

By Surg. Gynec. & Obst.

The author has with almost startling good results used ether as an antiseptic in abscesses and other tuberculous abscesses appendicular abscesses compound fractures, carbuncles tuberculous glands tuberculous synovitis chronic sinuses etc. He takes up in more or less detail the use of ether in peritoneal conditions. Sixty times he has introduced ether into the peritoneal cavity as an antiseptic in 59 patients. Two died one he thinks due to using too little ether (30 ccm) in a pneumococcus peritonitis, the other he classifies as really a success for ether as the peritoneal cavity was clean the patient dying of pneumonia.

He cites 5 successful cases which he thinks largely owe their lives to ether. Two of them post-operatively showed evidence of absorption of ether dilated pupils pulseless and poor respiration. Both of these had had five ounces of ether. The author does not state the time after the onset of the attack.

antitrypsin content and leukocytic count before and after laparotomy and gives his conclusions as to the value of the results in diagnosis. The results show that there is a certain relation between the antitrypsin content and the increased destruction of leukocytes but that the rise in the antitrypsin is not exclusively due to destruction of leukocytes.

He could not confirm the assertion of other authors who hold that if there is an antitrypsin content of more than 1.8 after operation the prognosis is hopeless for according to his observations some patients with a low antitrypsin content died while those with a high antitrypsin content after operation lived. Neither can the determination of the antitrypsin content and the leukocytic count be utilized in differential diagnosis any more than in prognosis. We can say at most that if the diagnosis is between a benign and malignant new growth is doubtful the former can probably be decided on if the antitrypsin content in the blood serum is normal or only very slightly increased. Observation shows that a high antitrypsin content connected with only a slight rise in the leukocyte count or none at all indicates carcinoma.

Treatment with camphorated oil in laparotomy produces an increase in the leukocytes probably due to the irritation caused by the camphorated oil therefore the oil should be used where there is danger of infection because the increased number of leukocytes may prevent or overcome the infection.

I WISNER

Well R.: Sodium Citrate in the Transfusion of Blood. *J Am Med Ass* 95 ix 45
By Surg. Gynec. & Obst.

Blood mixed in proper proportions with a solution of sodium citrate does not clot owing to the fact that calcium salts are no longer available for coagulation. Such blood may be kept for many days in the ice box without losing its oxygenating function. Experimentally Well has found that guinea pigs or dogs may be practically exsanguinated and can be rapidly restored by venous transfusion of citrated blood even if the blood is several days old.

Human patients have been treated the same way receiving in various cases amounts ranging from 10 to 350 ccm of citrated blood. The method is simple. Blood is aspirated from a vein and is once well mixed with sodium citrate in a 10 per cent solution in water in the proportion of 1 ccm of solution to 10 ccm of blood. If the mixture is made in the syringe in cases which not more than 30 ccm are to be transfused the transfusion can be made directly from donor to donee. If larger amounts are to be used the blood is expelled into a flask from which the syringe is filled. In drawing the blood it is well to use a three-way stopcock which communicates with the needle with a 10 ccm syringe containing the citrate and with a large aspirating syringe.

The needles are introduced into the veins of the donor and donee and both are connected by a T shaped tube with a syringe. An accessory syringe permits the injection of the citrate solution into tubing between the syringe and donor's needle. The blood is alternately aspirated and expelled the direction of the current being controlled by two stopcocks. The apparatus is very simple and requires the help of only one assistant.

The figures indicate that the introduction of large amounts of 20 per cent sodium citrate solution does not lower the coagulation time in the least. Infusion of 5 gm. of sodium citrate reduces the coagulation time by one half. Weil has found it quite satisfactory to use the following. The citrated bloods of the two individuals are mixed in 10 ccm tubes as follows: three tests being made. One ccm of each of 0.1 ccm of one to 0.9 ccm of the other and vice versa. After incubation for one hour agglutination may easily be determined. Hemolysis is disclosed by the color of the upper layer if the cells have settled sufficiently and centrifugation is required.

T O BOW

Deavor T. L. Transfusion of Blood; Some Recent Observations. *Am J Surg* 95 xix
By Surg. Gynec. & Obst.

Deavor claims that too much mystery has surrounded blood transfusion and that most of the instruments devised for its performance are entirely too complicated and of little practical value to the general surgeon. He predicts that new conditions will continually arise for its use as we come to understand the blood more fully.

Patients suffer from pernicious anemia and the anemia of malignancies if transfused early and repeatedly are greatly improved. He condemns its use in acute infections in plethoric individuals. He thinks that the action of the transfused blood is to increase phagocytosis and to increase the opsonic index.

In anemic individuals with a fast second heart sound and a pulse thready and irregular transfusion should be done cautiously if at all. In the presence of marked blood impoverishment and in great reduction of blood volume by acute hemorrhage he warns against the danger of hemolysis. This condition occurs in something like 25 per cent of cases and for this reason he urges that the blood of both individuals be tested. Saline infusion often fails. If there is a short period of rally but the heart soon fails. He points out that whole blood seems to apply this need as in transfusion hemorrhage is often controlled by shortening the coagulation time. He cites that by far the greatest number of transfusions are done for anemia whether of the pernicious variety or whether from sudden depletion, but that the transfusion of uterine fibroids persists. Persistent obstinate hemorrhage from the womb or frequent tibiales hemorrhages. He recommends to see when possible the foreign substance has accumulated in the blood as malignancies.

Mowat II The Localization of Foreign Bodies
by Means of the X Rays *Bri M J* 1915 1
112 By Surg Gynec & Obst

The object of the radiographer is to state with the utmost precision the exact position of a foreign body and to satisfy himself that if an extraction does not result he is in no way to blame. For this reason the method of examination chosen should be the most accurate not the most rapid. It is often concluded that such and such a method is the best because of the ease and rapidity with which it can be executed. However quickly it may be possible for the radiographer to do his share of the work if it is not accurate it is the worst possible method.

Considerable difficulty may confront the radiographer and he must to a certain extent depend upon the skill of the surgeon but if he knows that he has made no mistake he need fear no criticism. It is advisable for him however to be present at the operation in order to see that the patient is placed in a similar position to the one which he assumed during the X ray examination and further so that he may draw the surgeon's attention to various necessary points for instance if a spot has been marked on the skin under which the bullet is said to be at a stated distance he must see that the skin is not stretched before the incision is made. A surgeon will frequently do this without thought placing his thumb and forefinger on either side of the spot indicated. Further if it is shown that a foreign body lies at a certain depth below a mark that depth is vertical and the information given will be of no value if the operator enters obliquely in order to avoid certain structures. The surgeon must so to speak focus the bullet in his mind's eye before the cut is made as once the knife has entered the surface marking is lost.

Brief descriptions are given of the right angle and the triangulation methods. These descriptions have not sufficient detail to serve as a guide for the beginner nor do they afford new information for the experienced alike. D M R B M E

Stern S Deep Röntgen Therapy and Its Application in the Treatment of Malignant Growths
Md Rec 95 1 11

B Surg Gynec & Obst

The technique of the administration of X ray therapy in malignancy has recently undergone very radical modification chiefly in which re-

1. The filtration of the X rays. The thickness of aluminum filters has been adapted for deep seated lesions as 3 mm in the first series and made up of 1 w t y s of the k p h i g r a p h i c p a p e r and lead h o g e should be used to keep out the second r y r p r o d u c t the luminum

C a d m i u m i t e. The dose should be calculated from as many different glass plates

3. The dose. It is advisable to divide the surface into small fields in order to give

each field at one treatment the maximum dose of toleration. This has been found to be from 15 to 20 % measured under 13 mm of aluminum. This dose should be given at three week intervals.

4. The use of rays of a certain degree of penetration. The degree of penetration that has been found probably most advantageous in deep therapy is from 8.5 to 9 Bauer (12.75 to 13.5 Wehnelt).

The results accomplished in the treatment of malignant growths have been decidedly more satisfactory since the technique has been adopted.

Although it still holds good that no operable cases of deep seated malignant growths should be treated with X ray except where patients refuse to be operated upon the treatment is still reserved for inoperable cases for recurrences and for prophylactic treatments following operation.

The result of fourteen years work with Röntgen therapy and the treatment of hundreds of cases of deep seated malignant growths treated in hospital and private practice force the author to the conclusion that there is at present some unrecognizable difference in apparently identical cases which determines the degree to which they will respond to X ray treatment.

This difference is irrespective of microscopical findings tissues involved condition of patient etc. although it probably has some bearing upon the degree of malignancy that we cannot recognize at present.

While we sometimes get extremely satisfactory results in the treatment of deep seated malignant growths, we are still in no position to make definite promises at the beginning of treatment as to the probable termination of any case.

The fact that we occasionally get brilliant results in the form of cures very often improvement of symptoms in the alleviation of pain and prolongation of life is sufficient to justify our demand that all cases of inoperable and recurrent malignant growths should be given the benefit of this chance before they are given up as absolutely hopeless.

The post-operative X ray treatment of malignancy with the object of reducing the chances of recurrence is developing into one of the most important branches of deep roentgen therapy.

It unquestionably diminishes the percentage of post-operative recurrence. It has also been used in every case following all operations for malignancy. The treatment to be efficient must be thoroughly systematic and persist for a period of at least three years.

Treatment should be begun ten to fourteen days after operation. The first series are given at intervals of 3 or 4 weeks followed by treatments given every 6 weeks for the balance of the first year the second year every 6 weeks and the third year every 3 months.

Considering that the treatment is not accompanied by any danger whatever and that the length of time between treatments is so long that it does not interfere with the patient's work or the patient's

at which the operation was performed which would greatly influence the result in these septic peritonitis cases. He considers 3 ounces the maximum dose. In septic arthritis his treatment is that outlined by Murphy except that he injects ether instead of formalin in glycerine the quantity not to exceed 2 drams. One case of septic arthritis of the temporomandibular joint was ingeniously treated. To obtain extension the patient was anesthetized and a piece of India rubber one inch square and three-fourths inch thick inserted between the molar teeth. The relief was so great to the patient that he insisted on keeping the rubber in place 14 days. This gave relief to the intense pain following the injection of ether. He cites 3 cases of grossly infected wounds treated with ether and says that ether has proved more satisfactory than any other antiseptic.

M. S. HENDERSON

Halpern J: Experiences with Coagulen (Erdraugen mit Coagulen) *Beit. kl. Ch.* 9 5 xcv 324
By Surg. Gynec. & Obst.

From his experience with coagulen Halpern concludes that it is a valuable hemostatic in bleeding carcinomata and post operative hemorrhages. It is equal and in some cases superior to other hemostatics. It is harmless, has no bad by-effects, and is prompt in action. It should be used in all cases in which other hemostatics have been used as results are often obtained by it where other methods have failed entirely. It has proven especially valuable in a number of war injuries. In several cases of amputation of fingers, toes and legs ligation was dispensed with entirely the wounds simply being covered with coagulen. Halpern has had no experience in using it subcutaneously or intravenously.

A. Goss

Hogan J J: The Intravenous Use of Colloidal (Gelatin) Solutions in Shock. *J. Am. M. A.* 19 5 lxi 72
By Surg. Gynec. & Obst.

In his observations on abnormally low blood pressure Hogan points out that the most serious harm done in hemorrhage does not depend upon the great loss of red blood cells or in the loss of certain chemical constituents of the blood but in the great diminution of the volume. Physiological salt solution transfusions produce only temporary effects the solution passing off in the urine or being absorbed by the tissues as manifested by edema.

The explanation of this is that the blood or lymph contains no free water all the water in it being held in combination with colloids a salt solution rapidly disappears from the vascular system for the reverse reason in other words, because this does contain free water.

The salt in the physiological solution has a further detrimental effect by decreasing the capacity of the colloids for holding water this is in proportion to the degree of concentration, so that after injecting

a strong salt solution into the circulation the colloids of the tissues give up water so that an amount over that injected is excreted.

Experiments with water combined with a colloid confirmed the above reasoning the urinary output was not increased after transfusion with this solution and it remained in the blood vessels. Sterile blood serum and also a gelatin solution were used. It was found possible with moderate amounts of this solution to produce evidence of overdistention of the vascular system which did not occur with normal salt solution.

He reports a number of cases where the gelatin solution had been used for transfusion in cases of severe hemorrhage in human beings with apparently better results than those obtained with salt solution.

D. L. DESPARD

ELECTROLOGY

Smith L A: The Fluorescent Screen in Medicine and in Surgery. *N. M. J.* 19 5 xii 354
By Surg. Gynec. & Obst.

The entire field of application of the X-ray in medical and surgical diagnosis is covered by the author within a few pages and necessarily in a condensed manner. As to fractures and dislocations he thinks that the day has passed when it could be said that they have been thoroughly examined or properly reduced without the use of the fluorescent screen. By it in the thorax may be observed infiltrated and calcified glands, abscesses, emphysema, pneumothorax, tumors of the esophagus, the trachea, foreign bodies, heart, aorta and the position and movement of the diaphragm.

The author gives considerable attention to the gastro-intestinal tract. In examining the stomach he advises giving an opaque meal six hours previously. The fluoroscopic picture in cases of gastric ulcer varies with the variety of ulcer whether a shallow erosion, a penetrating ulcer with a niche, a perforating ulcer with an accessory pocket. Aside from the niche or pocket an incisure which resists massage and belladonna is the strongest sign of ulcer. An ulcer may produce how glass stomach, the spasmoid or organic. It usually has a short canal on the lesser curvature side while the hour-glass of carcinoma has a longer centrally situated anal rather irregular in outline. Carcinoma also shows persistent defects in the silhouette of the stomach. Duodenal ulcer has a sign of deformity of the bulbous persistence of barium in the crater of the ulcer, incisure opposite the ulcer, unusual and persistent filling of the duodenum, exaggerated gastric peristalsis and hypertonicity and tenderness over the bulb. Ileal stasis may be shown by distention of the terminal ileum with fixed narrow and painful points. Carcinoma of the colon may be manifested by obstruction to the barium meal or clyster, dilatation of the colon proximal to a palpable tumor coinciding with a filling defect and exaggerated antiperistalsis.

ALBERT MILLER

shell A high velocity Mauser bullet may pass straight through the abdomen penetrating the large and small bowel without causing a fatal or even a serious result providing that the following conditions are present the bullet must be traveling at a relatively high velocity the intestines must be more or less empty of fluid contents and the proper first aid treatment must be administered In cases of this kind the best results are obtained by giving complete rest to the intestines for 48 hours after the injury these conditions being obtained by giving morphine in full doses withholding all food and providing as much rest as possible

Wounds involving the large bowel are generally complicated by other injuries such as fractures of the pelvis injury to the bladder or damage to the large nerve trunks The nerves may be completely cut across but are more commonly compressed in which case the symptoms begin to pass off within a few days

The most difficult cases are those associated with fracture of the pelvis and a septic wound One case mentioned was that of an officer shot through the pelvis the bullet entering at the symphysis and emerging close to the sciatic notch The pelvis was extensively cracked and the wound had become septic before the patient was admitted to the hospital

The worst cases are those in which a shell wound is complicated by fecal fistula and fracture of the pelvis A case mentioned had a large lacerated wound on the left side above the hip joint This led down to a hole through the wing of the left ilium through which feces were discharged The method recommended by the author in dealing with cases complicated by fecal fistula is to perform a temporary transverse colotomy and to provide free drainage After the wound in the bowel is healed the colotomy can always be got rid of by a secondary operation

Ritschl A Orthopedic Principles in the Treatment of the Wounded (Orthopädisches Handbuch) Med Kl Berl 95
By Srg Gyne & Obst

Ritschl emphasizes the importance of orthopedic treatment in military surgery If orthopedic measures were adopted from the very first instead of being deferred for so called after treatment many limbs could be saved which are now amputated and most of the preserved limbs which now become lysed Every physician should understand the principles and apply them in cases of injury to the lower joint Act promptly and the patient should be begun with the earliest possible treatment to the trophy of the muscles Each time the legs are changed place the motion should be performed Electric treatment should be done where passive motion is impossible in case of injuries to the soft tissues

If the treatment were begun immediately from the first fracture the result could be much better

creased they would be necessary in fewer cases and much shorter in those Many sins of commission but more of omission could be avoided if all physicians were thoroughly trained in the mechanics of the human body
A Goss

Parry L A Notes and Comments on Some Cases of Wounded Men from the Front Gay II p
G 3 95 xxx 5 By Srg Gyne & Obst

Secondary hemorrhage is not a very common occurrence in ordinary civil practice but it is far from uncommon following gunshot wounds and is a subject of considerable importance for on its correct and proper management the life of the patient may depend Secondary hemorrhage is most common in the second and third weeks after the infliction of the injury and almost always due to sepsis It follows therefore that it occurs more frequently after shrapnel than after rifle wound

The first principle of treatment is that whenever possible the hemorrhage should be stopped by ligation of the bleeding vessel in the wound If it is impossible to ligate the bleeding point proximal ligation is advised This however may result in such a disturbance of circulation that gangrene follows and amputation may be necessary

Extensive wounds of soft parts are comparatively common Usually these cases arrive at the hospital in a very septic and sloughy condition The treatment advocated is to irrigate with 10 per cent hydrogen peroxide and then apply gauze soaked in chlorinated soda solution

Perforating wounds of the chest are usually associated with injuries to the lung Complications which result are hemothorax pneumothorax and empyema Pneumonia sometimes occurs and is then generally due to exposure rather than to the injury the unwounded lung being the one attacked The treatment is simple and in those cases in which there are no serious complications a policy of mastectomy is best Bullets unless very superficial should be left alone in most instances Fluids should be aspirated
J H Sallis

Fauntleroy P C. Gunshot and Shell Wound Med Rec 914 lxxx 15
By Srg Gyne & Obst

The author gives a minute description of the types of ammunition used by civilized nations Wound produced by bullet is how explosive penetrating simple wounding result is wound ing effects depending on the point at which the shot was fired In shrapnel wound there is apt to be more laceration and bruising of tissues with subsequent infection because of the relatively slow velocity and ragged shape of the missile

The treatment of gunshot wounds is in the immediate area of the frangible part is little more than a sterilization with 1% solution of iodine and protruding bones with the use of iodine 500 alcoholic solution of corrosive sublimate 1% tincture of eucalypti

high time that the surgeon should be made to realize that his responsibility does not end with the operation and that he has been derelict in his duty in not advising his patients to have the operation followed by a course of prophylactic raying. They are most assuredly entitled to that chance.

Quigley D T. The Relation of Radium to Surgery

Med Her Id 19 5 21 5
By Surg Gynec & Obst

The author states that the effect of radium is due to the penetrating hard β and γ rays. Its effect is several hundred times more penetrating than that of the roentgen rays but its burns heal quickly and with very little pain. Radium has been found to be the best treatment for roentgen ray burns, roentgen ray eczema, and roentgen ray cancer.

The author uses radium in inoperable cases and for post-operative treatment in those which are operable. He finds that many inoperable cases have been brought into the operable class by radium treatment. He also states that it should not supplant the knife but should be used in conjunction with it. But in some cases, such as cancer of the face, radium should be given the preference because it leaves no scar. It is a specific in leiodid, lupus, and tuberculous glands of the neck. It should be used only by an expert. LEONOLD JACQUES

Breard. Radium Therapy in Malignant Tumors

(Die Radiumtherapie maligner Tumoren) *Strahlentherapie* 1914 No

By Surg Gynec & Obst

The direct application of the penetrating rays according to the method of Dominici gives promising results. The emanation action of the rays is of little significance in the surgery of today. The Dominici tubes must be introduced directly into the tumor and should average 50 cg pure radium salt. A large number of these tubes should be introduced into the tumor at various angles and places and crossfire should so be obtained.

Barcat reports 19 cases of breast cancer. The best results were obtained in cases still operable. In 5 inoperable cases the disease was apparently cured. Poor operative recurrence disappeared quickly under treatment but metastases occurred frequently. Large doses of intensive application of 48 to 100 hours duration repeated every two months were more effective than frequently repeated applications of short duration. In some cases the application of the radium capsules to the surface produced good results.

In buccal mucous membrane and tongue cancer the prognosis is favorable only in superficial cases. In the majority of cases it is only a palliative measure. Cancers of the stomach and bowel are curable by radiotherapy only when the rays can be applied immediately after laparotomy. A cancer of the pylorus so treated was completely cured locally. The patient improved, cachexia disappeared but after two years he died of liver metastases.

In cancer of the colon the results were only palliative and temporary. In two localized cancers of the bladder which were treated with radium after a cystotomy complete cure apparently resulted.

The results in esophageal cancers are encouraging. The application must not be less than 5 to 6 hours at a session and not less than 5 to 10 cg should be employed. A highly malignant cancer of the epiglottis was cured completely by this treatment. Six months after completion of the treatment the patient was able to utter a speech lasting a half hour.

Sarcomata are exceptionally radio-sensitive in some cases, especially the embryonal type. The others must be treated much more energetically. Lymphadenomata are as sensitive to radium as they are to the γ rays. In several cases which Dominici treated the lymphosarcomata disappeared but metastases in the mediastinum occurred in all of them within a few weeks or months. Radium is a very valuable palliative aid in the treatment of inoperable cancers. L. A. JONES

MILITARY SURGERY

Rubeamen. The Treatment of Stab and Gunshot Wounds of the Lungs (Zur Behandlung der Stich- und Schussverletzungen der Lunge) *Beitr z kl Chir* 1914 4 647

By Surg Gynec & Obst

The author discusses the treatment of lung injuries as to whether the conservative or operative treatment produces the best results. He states that while in his war experience they had hoped to operate upon all cases of lung injuries, the immediate symptoms following the injury were so severe that the operation had to be postponed in most cases. To their surprise they found the patient so well the next day that the indications for operation were absent in most cases a gradual recovery resulted. Out of 24 cases so treated only one died, all others making uninterrupted recoveries with the exception of 3—empyema, removal of bullet, in whom surgical intervention became necessary later on. The case that died showed interesting findings at autopsy. The wound in the lung had closed spontaneously, hemorrhage had ceased and the blood in the pleural cavity was sterile. The bullet had lodged in the pericardium and had caused a suppurative pericarditis, to which the patient succumbed. The effusion in the pleural cavity was tapped repeatedly but in no case was it ever infected. Temperature dropped in 25 per cent of the cases, but the author believes it to have been due to absorption of blood. He highly recommends conservative treatment. L. A. JONES

Mummery P L. Injuries to the Bowel from Shells and Bullet Wounds *Proc Roy Soc Med* 1914 7 5 8

By Surg Gynec & Obst

Injuries to the kind vary from clean bullet wounds to large septic lacerated wounds due to fragments of

Rehn believes it is due to foreign bodies carried into the wound such as bullets bits of shrapnel bits of cloth and other matter. Erysipelas is very rare among many thousand wounded men he has only seen two cases. Tetanus is one of the most feared wound diseases. The importance of tetanus antitoxin has already been emphasized. Gas phlegmon the most feared of all infections was much more frequent in the summer than now.

Rehn advises energetic treatment if the patient's general condition permits it. Laying bare the suppurating focus, washing it out with hydrogen peroxide and tamponing. He opposes early amputation even in advanced cases. A. Goss.

Beavis J. H. and Souttar H. S. A Field Hospital in Belgium. *Brit. M. J.* 1915, 1, 64.

By Surg. Gynec. & Obst.

The experiences in this hospital have been rather unique. Well equipped near the firing line near the Yser and from 5 to 8 miles at different points from the trenches the cases have been received with in the first twenty four hours and occasionally within an hour. The men seem dazed stupefied, and pathetic to a much greater degree than in the less strenuous fighting around Antwerp. Their clothing is filthy from the dirt in the trenches. These conditions are accounted for by the length of time in the trenches, lack of rest and the incessant roar and din of the battle.

When to these general conditions is added the loss of blood and the actual shock which must be associated with any severe injury it will be seen that the first efforts of the surgeon must be directed to the treatment not of the injury itself but of the general condition of the patient. He must be got warm his circulation must be restored he must be saved from pain and protected from further shock. In other words saline infusion and morphine must be used from the beginning in every serious case. Bleeding rarely requires immediate attention unless it had been dealt with effectively on the field the patient could not have reached the hospital. But the means adopted were probably very primitive and with improvement in the circulation bleeding may recur. This is a very real and serious danger which must on no account be overlooked.

The authors feel they cannot urge too strongly the necessity for deferring any serious surgical procedure until it is possible has been done for the general condition of the patient. It need not be long. Hot water bottles an emma of coffee and a bandy a quart of a grain of morphine and a pint of ubuta eo needles for really hot and will carry through serious operation a patient half before would pulse less likely to be lost by the lithy induction and their rate of recovery is increasing.

The infections dealt with here have low grade and a saprophytic type. The authors feel that the more and ugly looking wounds with the ordinary bacteria would have been incompatible with life.

A bullet far more deadly at long range than the dum-dum is now being used. This is a pointed bullet which is carefully constructed so that its center of mass is far back. On striking any tissue soft or hard it at once turns over and passes through backwards, the uncovered base mushrooming as it advances. The point of the bullet is under these circumstances unaltered. The course of operations has repeatedly shown specimens demonstrating the correctness of this description. The minute wound of entrance the great internal destruction the position of the bullet and its mushroomed base admit of no other explanation.

The injuries are divided into (1) head (2) chest (3) abdomen, and (4) limbs. In the first two the authors advise non interference in the last two they think the most radical operative procedures offer the best prospect of success.

1 In head injuries they saw no cases of clean cut perforation of the skull — laceration of the brain was terrific. They think it is best that these cases be sent through to the base hospitals for little can be done for them at the field hospital.

2 Wounds of the chest almost always do well if left alone.

3 In abdominal wounds the authors are of the opinion that where a wound of the intestine is suspected an immediate laparotomy is imperative. At their base the close-range fighting has caused graver rifle wounds than are usually seen. They close to the line, for unless abdominal cases can be brought in within six hours of the time of injury and use the transport for more practical purposes. Spinal anesthesia has been used very satisfactorily in cases of shock. Open ether was often given to overcome the patient's nervousness and for its stimulating effect. Free use of saline and cleansing peritoneal contamination is being dealt with and not a peritonitis in the ordinary sense of the word. In the ordinary case of septic peritonitis they state fatal. In the ultimate result the one essential factor is the time that has elapsed since the injury. Very few patients recover who are operated upon twelve hours after the injury.

In dealing with compound fractures two facts must be faced: (1) the wound is septic and (2) a large section of the bone has been pulped. Obviously osteomyelitis must result and loose portions of the bone will finally come away as dead sequestra. The cases should in the authors' opinion be regarded as cases of osteomyelitis complicated by a fracture. If it were not for this complication the disease could be treated on ordinary lines. As the bone got rid of the complication by plating the fracture. They believed that the introduction of a Calk more dead material than it removed would make very little difference in the result and the nursing and dressings.

simplicity itself. The opinion prevails that no plate will hold in a septic wound and that at the end of a few days the whole thing will break down. Whether this observation depends on the faulty application of the plates or whether the form of sepsis with which the authors dealt had other characteristics they do not know but on no occasion have they seen a single screw work loose from the bone. Very large and heavy plates were used for the femurs 10 in \times $\frac{3}{4}$ in \times $\frac{3}{16}$ in being perhaps the most useful fixed by six screws at each end. By this means the two end fragments were fixed together in their proper relative positions the intermediate portions being left *in situ* if they appeared to have a blood supply. No external splint of any kind was used and the authors state that the plate held the bone with absolute security and the fracture could be ignored.

Twice a day the wound was washed out with hydrogen peroxide through tubes introduced for the purpose during the operation. In most cases

the wound in a few days showed clean granulations, and only a little discharge would be washed out of the deeper regions. The patient soon learned to move the limb about for himself and in fact in several cases some difficulty was encountered in persuading the patients to stay in bed. Radiographs show that in these cases callus formed in a perfectly normal manner and that at the end of six weeks the small fragments fused together into a uniform mass sufficient to ensure the union of the bone. By that time the wound was closed completely or was reduced to a small sinus which was washed out daily and which was obviously closing from below.

As to the ultimate fate of the plates the authors state that it is impossible yet to speak. Their removal would in any case be an easy matter and would be a small sacrifice to pay for the ease and comfort they provide. Any one who has attempted to nurse one of these femurs on a splint and then the same case after plating can have only one opinion on the subject. M. S. H. BRASOV.

RECENT ADVANCES IN MILITARY SURGERY

By GUSTAVUS M. BLECH, M.D. CHICAGO
Major, Medical Corps, Commanding Field Hospital N Illinois National Guard

THE present European war has awakened general interest in military surgery which must be looked upon as a special branch of general surgery. As a rule it can be said that therapeutic indications in field hospitals and at frontal aid and dressing stations have been prescribed for the guidance of medical officers assigned to such stations by the proper authorities for the principal purpose of fitting into a scheme of bringing surgical relief to the greatest possible number without interfering with military conditions of importance to the fighting units. In the well-equipped hospitals at bases and in home territory where the surgeons are not hampered by external military conditions operative work of the character possible in civil hospitals can be practiced to the fullest extent. This must not be construed to mean that on the battlefield and in institutions on the line of communications initiative by individual surgeons is to be suppressed on the contrary all efforts are being made to improve the present degree of professional usefulness provided of course the limitations imposed by conditions at the front are not disregarded.

GUNSHOT WOUNDS OF THE LUNGS

In former wars gunshot wounds of the lungs were more feared than they are today. Statistics (German) of the Franco-Prussian War 1870-1876 show that over 50 per cent of penetrating wounds of the chest terminated fatally. This result was due to the size of the infantry bullets rather than to the treatment for the modern jacketed bullets produce different wounds and furthermore do not carry particles of clothing into the wound.

Shrapnel balls produce large openings and often remain lodged owing to their lesser force. Fragments of shells produce still worse effects often extensively injuring ribs or the wall of the thorax.

Dr. Wilhelm Hartert in Prof. Perthes' Clinic in Tübingen has observed several gunshot wounds of the lungs which ran a mild course but disputes the claim for so-called contour shots that is to say that the missile is deviated by a rib and passes between the bony wall and the skin around the thorax.

On the other hand the majority of lung injuries show a serious clinical course from the very moment of receipt of injury. As a rule the patient falls and a condition of profound shock follows which may persist for hours. There is usually pallor, small rapid pulse, pronounced respiratory embarrassment and slight cyanosis of the face. A torturing rattling cough, pains in the chest and back and hæmoptysis prove lung injury. Some

times the pains are referred to the upper abdomen similar to observations in civil life with pleurisy (mistaken diagnosis of appendicitis).

Hæmoptysis is a peculiarly unreliable symptom. It may appear at first extensively and then to a smaller extent for weeks though otherwise the disease runs a mild course. On the other hand it may not even appear in a grave injury or it appears only after one or more days after the receipt of injury. Prognostically this symptom is therefore of no value.

The factors of great significance in injuries of the lungs are

1. Disturbance of function of the lung due to its collapse in consequence of air or blood entering the pleural cavity.

2. Hæmorrhage if extensive *per se*.

3. Infection.

The danger of extensive pneumothorax is in direct ratio to the size of the wound of entrance. A closed pneumothorax results when the wound lips close. Bilateral open pneumothorax invariably leads to death the uncompletely closed one may terminate in recovery.

The most dangerous condition develops when there is a valve formation of the wound which allows the entrance of air but prevents its escape.

Closed pneumothorax needs but little treatment. In threatening phenomena the aspirating syringe will remove the danger.

Open pneumothorax is dangerous partly because it interferes with the respiratory mechanism partly because it leads to infection. In clean incised wounds in civil practice the rule has been to close the wound by sutures. In military practice the general rule is to treat all wounds by the open method but of late attempts at suturing large wounds have been made. An impermeable or even moist dressing prevents the ingress of air without stopping its egress.

In hæmothorax threatening pressure symptoms call for partial evacuation. But in all cases of late hæmo- and pyothorax paracentesis (about 14 days after receipt of injury) under strict asepsis must be practiced to shorten the time of resorption.

Extensive hæmorrhage may lead to exsanguination. Indeed injuries to much lung tissue or to large vessels of the lung are the most frequent causes of death on the battlefield in all pure cases of gunshot wounds of the lung.

In civil practice we try to control hæmorrhage by the aid of differential pressure. In the field one can only ligate the injured internal mammary or an intercostal artery.

Operative treatment in well-equipped hospitals

(Base? — C Al B) is feasible only in grave secondary hemorrhage

As a rule the danger from secondary hemorrhage is due to sepsis. In clean cases one or two days suffice to render hemo- and pneumothorax safe

Infection is serious but mere increase of temperature must not lead to such a diagnosis as even a clean hemothorax produces fever. Of the early empyema as compared with the late supuration of the hematoma the former is the more serious as it presupposes the entrance of virulent bacteria. Of all empyemas the traumatic is most feared as the entire cavity is rapidly flooded with bacteria e.g. streptococci staphylococci and saprophytic bacteria

The only rational treatment of traumatic empyema is thoracotomy, resection of ribs and drainage of the most dependent region. The same treatment is indicated in late supuration

Occasionally it may be possible to utilize the original wound if low for drainage. Later when the patient has improved somewhat thoracotomy may have to be performed

The after treatment aims at restoring the extension of the collapsed lung by methodical blowing exercises against resistance such as a tube immersed in about 30 centimeters in water

As already alluded to fever without causes demonstrable by physical examination is not an indication for interference especially the resorting at once to the aspirating syringe. Mere rises of temperature *per se* are meaningless. A realization of this is essential in order to prevent the patient from becoming unduly anxious

GUNSHOT WOUNDS OF THE ABDOMEN

Soldiers suffering from penetrating (perforating) wounds of the abdomen by small caliber missiles including shrapnel balls (a charge diameter of half an inch) must be treated conservatively at frontal aid stations. Rest abstinence from food and drink the combating of shock and pain and the protection of the wounds by sterile dressings constitute the sole measures available

When these patients reach the field hospital usually many hours after receipt of injury they reappear in good condition or they suffer from diffuse peritonitis. In the former case operative intervention is uncalled for; in the latter operative therapy comes too late. This represents the official teaching based on many experiences in recent wars

Lieutenant Colonel Jacob Frank, Surgeon General Illinois National Guard, strongly advocates the early establishment of drainage of the abdominal cavity provided the wounded fall into the hands of trained surgeons within the first few hours after receipt of injury. In view of the fact that the meager equipment furnished medical officers and

their trained subordinates for service at the front furnishes no means for the proper practice of drainage Frank urges that there be no hesitation in utilizing one end of the first-aid packet (a long sterile bandage in the center of which is fastened a small square dressing of gauze) which should be pushed through the wound into the abdominal cavity by any available narrow blunt appliance. When the wound is too small for such a maneuver it should be enlarged by dilatation with an artery forceps or by sharp dissection

Frank contends that while the official method protects the external wounds endogenous infection cannot be prevented thereby. The theory that in perforation of the hollow viscera the mucous membrane becomes everted and in that manner acts as a plug and prevents the escape of the intestinal or stomach contents into the peritoneal cavity is denied by him for leakage certainly is the rule. By draining the visceral contents and the bacteria from the abdominal cavity the peritoneum is given a chance at resistance. Frank further claims for his method that the transport to the field hospital which is so much dreaded is rendered less risky because the visceral contents and gases are not dammed up in the visceral and peritoneal cavities

Frank's contributions on this subject have aroused both adverse criticism and praise by several European army surgeons. The main contention that all manipulations with unsterilized appliances are apt to increase infection has been denied by him as important because the danger from endogenous infection is greater than that from without

In an extensive monograph very recently from the press Professor Wieting Pasha* of Constantinople also denies that the everted mucosa in a perforation of the intestine acts as a plug. On the contrary he is convinced that such an eversion proves a veritable stoma for the thin intestinal contents

Professor Pasha of the University of Leipzig advocates a small incision above the symphysis pubis under local analgesia large enough to allow the introduction of a rubber tube of medium size

This operation must be performed within forty-eight hours after the receipt of injury provided the patient is in a good condition. Treatment is continued in the sitting or lateral posture. By this procedure the blood effusion which is in the small pelvis and which becomes infected and suppurative leading later to general peritonitis is rendered innocuous

If the patient comes under observation after forty-eight hours Douglas pouch is to be examined and incised if protrusion, tenesmus and difficulty in urination are present. The entire procedure is done per rectum. If there is a circumscribed protrusion the phincter is stretched to a considerable extent the mucous membrane over the swelling is

The only army which utilized the partially jacketed bullets such as are used by sportsmen in hunting big game was the English army in its Indian frontier campaigns. At first the soldiers filed off the top of the mantle but later the English government munition factory in Dumdum near Calcutta produced them. The purpose was to better disable the enemy. The author bases his statement on the reports of the English surgeons Davis and Hamilton in the *British Medical Journal* toward the end of 1897.

Von Bruns' experiments show that the soft points of the bullets mushroom and produce the most terrible wounds explosive in character. The principal question that presents itself is whether one can recognize from the character of a wound that it has been produced by a dumdum bullet.

In observing individual wounds it must always be borne in mind that a wound of unusual character may be produced by jacketed bullets at close range or after the missile has ricocheted or the bullet has been deviated into a cross position or finally that the wound is due to a shell splinter.

As a result of his extensive experiments von Bruns calls attention to the characteristic opening of the skin in the wound of exit. The wound of exit is strikingly large, 3 to 10 cm. in wounds of the soft parts and up to more than 20 cm. long in bone wounds. The wound of exit occasionally presents a simple gaping tear wound with sharp margins, but usually the skin is torn in two to a long parallel tear. If these longitudinal strips are severed transversely and partially thrown outward large cutaneous defects are developed from which protrude rags of muscles and tendons.

Von Bruns has seen these parallel longitudinal cutaneous tears result only from soft-nosed and hollow missiles up to a distance of 600 meters. On the other hand large wounds of exit are produced also by full jacketed bullets in wounds of the diaphyses of the long bones at close range but these effects are not observed at ranges over 600 meters.

In the present war fighting is going on at close range and the reports show that the near effects of infantry fire closely resemble injuries by artillery. One should therefore be extremely guarded in diagnosing dumdum bullets merely from the large wounds of exit. The longitudinal parallel tears of the wound of exit however are reliable characteristics of explosive wounds.

Incidentally von Bruns takes up the question whether the new aluminum lead bullets utilized by the English in the present war in the battles around Lille are not dumdum missiles pure and simple. The missile referred to is a pointed bullet with a very thin jacket which however does not envelop a simple lead kernel but at the top an aluminum conical point 10 millimeters long.

The construction of this missile is such that the heavy lead kernel at the moment of contact presses against the aluminum kernel tearing

the mantle the lead kernel becomes deformed and frightful wounds result. Externally of course the missile appears to be jacketed and humane but the presence of the aluminum kernel in the wound makes the diagnosis one of absolute certainty.

From observations of ten wounded soldiers von Bruns scathingly condemns these missiles as cunningly cruel and illegal according to the Hague Declaration.

NAVAL WOUNDS

Charles A. Pannett of London emphasizes the fact that bullet wounds in the ordinary sense are unknown in sea battles, all wounds being due to bursting shells or to fragments from the ship produced by impact with shells. These wounds are multiple and very often extensive in character.

Few of the wounds become infected which Pannett believes may be due to washing with sea water. Suture of the wound is possible with a good chance for primary union. The good physique of the sailor makes him a good surgical risk as reaction from shock is frequently observed. Infection on land is more frequent because the soldiers lie in dirty surroundings, seldom receive prompt first aid and are often transported long distances for the first surgical aid to an improvised dressing station in some unhygienic building. As all shell wounds are of the lacerated contused type surgery is necessarily of a mutilating character.

In modern sea battles calamities occur in which only those able to jump and swim in the sea can save themselves. Those suffering from wounds and contusions, or stunned by blows, either drown or freeze in the cold water.

Most wounds seen by Pannett were of an extremely mutilating character, extremities being blown off, bones splintered, eyes torn out, jaws torn across, exposing the oral cavity, eyes gouged out, etc.

Among the survivors he saw no serious chest wounds. A small fragment may pass through the chest traversing the lung causing hemoptysis for a few days and still recovery results under expectant treatment provided the wound does not become infected.

First aid is rendered on battleships but no surgeons are sent with English destroyers and torpedo boats. Thus Pannett decries as a serious blunder and suggests that student-doctors be sent on board each small craft to prevent infection of the wounds.

Every man should receive a hypodermic injection of a large dose of morphine before removal to the hospital ship.

All tourniquets which have been applied should be let alone at first until opportunity presents itself for systematic examination and treatment. Operative treatment must be postponed until shock and anemia from hemorrhage are controlled. Often hours elapse before there is reaction from shock. Pannett used antiseptic treatment — 25

per cent alcoholic iodine and carbolic 1:60. Retained fragments seen by roentgenography should be excised if not too deep seated as then there is danger of spreading infection.

It is a good plan not to condemn extensively injured limbs to amputation as many which had been declared hopeless have recovered. It is better to err on the side of conservatism.

HOSPITAL SHIPS

Pannett believes that the advent of the water plane and submarine is bound to revolutionize the care of the wounded on water. He takes issue with the plan of Surgeon General Rixey of the U. S. Navy to have hospital ships accompany fleets. Hospital ships cannot be built to travel fast enough to follow fleets and at the same time maintain the needed equilibrium in turbulent waters necessary to do surgical work. Such ships could not make ports at low tide yet this is important as ships must seek shelter and hospital ships must evacuate their wounded to port hospitals.

Hospital ships should remain at some distance from the fleet engaged in battle and men of war which desire to transfer their wounded must send them to the floating hospital by destroyers in this manner preserving fighting efficiency.

In the present war the hospital ships in spite of almost insuperable difficulties have proved very useful—for superior indeed to the improvised hospitals on shore because of the presence aboard of sterilizing and X-ray equipment.

Ordinary ships can of course be transformed into hospital ships but it is better to build them as such. Such a ship should not exceed 2,000 tons and should draw not more than 16 feet of water. It will accommodate 100 beds.

Pannett attributed his ability to do good surgical work on the Liberty to the fact that the operating room was placed in the middle of the ship with the floor five feet below the water line thus occupying a position where the boat's movement least felt. Proper ventilation is essential for after treatment and all wards should be on deck. It is as easy as possible.

Good light and heat and an arrangement to depend on make it in a fixed position all of which if need be—in a word below the water line adequate supply of lavatories, thorough and sick rooms and every accessibility to all ward are the demand for good hospital ships.

THE TREATMENT OF ACUTE EMPHYSEMATOUS GANGRENE

Lieutenant Colonel C. B. Lawso of the Royal Army Medical Corps and H. Beckwith Whitehouse in a preliminary communication from Russia report

to the great incidence of tetanus and acute emphysematous gangrene among the wounded. They have adopted a new method of treatment which has shown marked success in their hands. In the months of September and October they had 17 cases of gangrene. Of these 3 were traumatic pure and simple resulting in interference with the blood supply. The remaining 14 represented the type variously designated infective gangrene.

hospital gangrene or emphysematous gangrene. Of these 8 involved the upper 6 the lower extremity. The first three cases were treated in the usual manner and proved fatal. In one case amputation did not relieve the shock and general infection in the other two the process had already extended to the abdominal wall and amputation was out of the question. Application of peroxide of hydrogen did not prove of any value whatever.

The first patient of the new series had sustained his injury three days before reaching the hospital. He was *in extremis*. He showed a large lacerated wound on the posterior aspect of the right knee extending upward into the muscles of the thigh. The wound was extremely foul the surrounding tissues edematous devitalized and emphysematous with typical blebs on the skin. A long unencapsulated anaerobic bacillus was cultivated from the fluid of the wound. Amputation was done through the upper third of the thigh. During operation it became apparent that the infection had already spread so high that amputation in healthy tissue was impossible. After 24 hours the flap showed infection. Iodoform of hydrogen under pressure was infiltrated into the tissues above the affected process. For this purpose small incisions were made through which the drug was forced into the subcutaneous and subfacial planes by means of a Higginson syringe. The rapid evolution of gas distended the stump to an enormous size. At once the process was arrested the infected portion sloughed away and the surrounding skin assumed a normal tint. The patient recovered and returned to England convalescent. In other cases similar treatment was given without amputation.

The following conclusions were reached:

1. Acute infective gangrene due to bacilli aerogenes, spulatus or bacilli edematis maligni in the case of the extremities is at first a purely local process preying by direct continuity in the subcutaneous tissues. The muscles and deeper tissues are only involved in the immediate neighborhood of the wound. When gangrene of the whole limb is set in to severe trauma especially to the main vessels acute infective gangrene and traumatic gangrene may be superimposed.

2. Amputation of a limb for acute emphysematous gangrene is unnecessary until the whole of the tissues are involved. If the area is sufficient to remove only the infected tissues and amputation high below the infected area is contra-indicated. In the presence of shock

3 Infiltration of the healthy subcutaneous tissues with oxygen above the line of spreading gangrene is sufficient to check the advance of the infection and in the majority of cases the limb may be saved

4 The most convenient means of applying nascent oxygen to the tissues is by the injection of warm neutral hydrogen peroxide

5 Since the operation is not unattended by risk, care must be taken to obviate shock and trauma to the veins

THE REMOVAL OF BULLETS BY THE ELECTRO MAGNET

Surgeon General Prof Dr von Hofmeister of Stuttgart¹ refers to the great demand on the part of patients to have bullets removed in the erroneous belief that once the missile has left the body all danger from the injury is past—a notion from which even many medical men have not freed themselves

Recently a proposition has been made to utilize the giant electro magnets for that purpose in the same manner as the ophthalmologists use the appliance to remove a metal splinter from the eye

About twelve years ago von Hofmeister extracted with ease a small iron rod from the bladder of a young man per urethram by means of Hirschberg's hand magnet after introducing an attachment of soft iron shaped like a catheter into the urethra Since then he has undertaken many experiments on freshly amputated extremities with negative results

Even a perfectly new needle in the muscular tissue offers, through muscular adhesion such tremendous resistance that the 15 kg pulling power of the electro magnet applied closely and in the right direction does not suffice for extraction It is absolutely impossible to pull out a small piece of iron from below a muscular layer even if the latter be no thicker than paper

Clinically von Hofmeister had only one favorable experience with the magnet It concerned a case of a lodged part of a needle in the vola manu The magnet raised the muscle layer over it with lightning like rapidity and the needle was then easily excised

Neuhoeffer proposes to utilize special magnetic probes (sounds) with the giant magnet He admits that he has not succeeded in pulling fragments through the tissue but has moved them a bit nearer to the wound channel This is a brutal and hazardous expedient for the giant magnet as compared with the hand magnet is so powerful that its action is like that of a foreign body fastened to a strong cord on which a severe pull (compared with the stretching of the current) is exerted and maintained until everything gives way to the passage of the fragment only that the string is invisible The fragments being irregular often sharp-edged there is naturally great danger of injuring nerve and blood vessels in the path

Again the question of infection looms up as a great danger Certain experiences in military hospitals have shown conclusively that when a wound which has been doing well is subject to some jarring or irritation dangerous infection (erysipelas) may be lighted up Whether this irritation is from without inward or the opposite is immaterial

In this respect the roentgen rays otherwise so invaluable in military surgery represent a veritable danger to the patients A picture shows the bulk so plainly so apparently easy to reach that many have been tempted to attempt to remove the missiles Only those who have been disappointed at not promptly finding the missiles and who have paid for their folly by anxiously watching the dangerous results of their unnecessary interference will fully realize the true meaning of the following axioms

1 A metallic foreign body is usually a harmful guest in human tissue

If phlegmons or abscesses have developed from the gunshot wound the missile within plays but a secondary rôle The purpose of removing a missile in such cases is to establish drainage and should be undertaken only when it lies loosely in the abscess cavity One should take care not to dig around for the fragments as there is danger of spreading the infection

3 Removal of a missile is indicated when demonstrated to be in a location in which we know by experience that foreign bodies act harmfully viz in the urinary bladder trachea etc or when its presence produces definite disturbances such as pressure on the nerves and blood vessels disturbed motion of articulations tendons or muscles etc

It is evident that the last indication demand keen diagnostic judgment and that the mere presence of a missile on a roentgenographic plate in itself is not sufficient The author cites several interesting experiences which show conclusively that a positive roentgen picture is not synonymous with clinical symptoms apparently indicating extraction of the foreign body shown on the plate

LATE SECONDARY HÆMORRHAGES

These hæmorrhages are graphically described by Privatdocent Dr Schloesmann of Professor Perthes Clinic in Tübingen Late secondary hæmorrhages of gunshot wounds differ from secondary hæmorrhages seen in clinical practice to such an extent that the military surgeon is impressed by them with most disagreeable surprise and prompt action is necessary if the patient's life is not to be endangered Indeed patients suffering from profuse secondary hæmorrhages have been brought from neighboring reserve hospitals to Perthes Clinic for the purpose of peritomy but many have come exhausted and either died on the way or peritomy intervention came too late In some cases it is possible to have been saved if the attendants had not waited too long

A peculiarity of late secondary hæmorrhages is that they may occur without symptoms so that the patient does not know what is going on. The blood flows through the dressings then through the bed linen through the mattress and so on away from observation until the patient collapses the warm covers preventing the patient from feeling the blood on the skin.

Among many observations one is highly instructive. The soldier was a medical student who was shot in the leg 11 days previous. The wound of entrance and exit were granulating. At no time did the patient have a hæmorrhage. The leg was placed in a fenestrated cast.

While using the bedpan the patient felt dizzy and weak. Believing that the straining incident to defecation weakened him he ordered the pan removed and he laid down. There was no improvement. Cold perspiration appeared. The comrades in the ward noticed that he was exceedingly pale. The surgeon was sent for who on noticing the pallor of the lips became suspicious and examined the wound and then noticed that the bed was full of blood. In this case the patient himself misled his neighbors by blaming his threatening syncope to the act of defecation.

Another dangerous circumstance is the fact that these late secondary hæmorrhages often occur during the night when the patient is asleep perhaps under the influence of an opiate or sedative and he passes from sleep into unconsciousness and death.

What causes these hæmorrhages? There can be but two causes either they are the sequelæ of secondary ærosion of the vessels or they are due to primary injury of a blood vessel on the battle field. Ærosion hæmorrhages are not unknown in civil practice. In gunshot wounds with comminuted fractures a splinter may be pressing against a blood vessel producing circumscribed necrosis and rupture of the wall of the vessel. If the perforations be large the resulting hæmorrhages may become dangerous. In war there is great opportunity for the piercing of blood vessels by splinters, to which must be added the danger from transporting the patients nevertheless these forms of hæmorrhage are comparatively rare.

More frequently ærosion is due to suppuration and sepsis. Hæmorrhage is usually venous because the thin walled veins cannot resist suppurative processes as well as the arteries. For this reason this kind of hæmorrhage is seldom immediately fatal. The attack frequently ceases as soon as the surgeon reaches the wounded only to reappear in his absence. It is impossible to tell where the hæmorrhage comes from in a wound covered with granulations. The danger lies therein that under such circumstances the surgeon is tempted to be satisfied with tamponing the wound and wait until a stage of dangerous anemia is reached.

Suppurative and sepsis run closely related although in the latter the hæmorrhages are doubtless due to the altered composition of the blood—poor coagulation.

The prognosis of septic hæmorrhages in connection with the general condition of the patient is usually bad.

Treatment may be attempted to improve the power of coagulation by the topical application of fresh serum pressed meat juice fresh defibrinated blood or certain preparations but we must not forget that we are dealing not with a disturbance of coagulation but with an absence of fibrin forming factors principally fibrinogen. Constitutional treatment therefore is of equal importance. General improvement restores the fibrin forming power of the blood and the hæmorrhages cease spontaneously.

Surgical experience has shown that secondary ærosion of the vessels plays an unimportant rôle in the development of late hæmorrhages. Out of 11 cases operated upon only 3 could be traced with certainty to that cause and of these one was a grave septic secondary hæmorrhage. Undoubtedly the majority of the late hæmorrhages are due—and this is specially important—to a primary injury of the vessels by the bullet.

Experience has shown that the modern pointed bullet with its great speed does not allow the vessels to get out of its path and clean perforations or complete division of smaller vessels are the rule. Primary æsanguination is often prevented by the small caliber of the missile and the narrow wounds of entrance and exit. What develops is an effusion of blood in the vicinity of the vessel injury. The tissues move closer and tamponade the wound channel. A hæmatoma develops and remains in communication with the pulsating blood stream which has been designated *aneurisma traumaticum spurium*.

Sometimes all this does not occur when the blood vessel strongly retracts immediately after receipt of injury. Thrombus formation acts as a provisional closure of the source of hæmorrhage.

In all these cases there is danger of a late secondary hæmorrhage. Suppuration increased blood pressure due to coughing straining motion etc may cause expulsion of the incompletely organized thrombus. The danger of late hæmorrhages lasts up to the fifth week, that is to say until adequate granulation and contraction of the wound channel have forced the injured vessel into the depth of the tissues. Late hæmorrhages may occur also in through and through shots which run an æseptic course even when the wounds of entrance and exit have probably closed. These hæmorrhages have a different significance as far as prognosis and therapy are concerned.

Classically the patients complain of gradually or rapidly increasing tension pain in the injured part distally radiating nerve pains and these are connected with peripheral paresthesia. Examination shows the vicinity of the wound swollen and thickened and soon the entire distal portion is edematous. These are symptoms of pressure of the intermuscular hæmatoma on nerves and vessels.

GYNECOLOGY

UTERUS

Lewis H F: Operations for Laceration of the Cervix Uteri *Illinois M J* 1915 xxvii 115
By Surg Gynec & Obst.

Fresh lacerations of the cervix rarely require treatment except aseptic prophylaxis. Immediate repair only is indicated when the tear has extended far enough up the portio to sever a branch of the uterine artery large enough to cause dangerous hemorrhage otherwise the danger of infection is too great to justify the rather remote advantages.

Laceration of the cervix *per se* is no indication for the secondary operation. Most multiparae have more or less cervical laceration without symptoms which can rationally be attributed to that condition.

The complications of the laceration are the only proper reasons for operating. These are sterility or repeated early abortions, presence of granulations, erosions or eversion of the mucous membrane of the cervical canal, especially hypertrophy of the anterior and posterior lips of the torn cervix with signs of chronic infection or passive congestion.

The etiological rôle of lacerations as predisposing factors in cancer is doubtful but probably enough to have some weight in the decision to operate.

The two main types of operation are trachelorrhaphy and amputation. The former is adapted to those cases where there is little or no hypertrophy or infection, the latter for cases where hypertrophy and infection of the lips of the torn cervix exists that is in the majority of cases where any operation is indicated.

EDWARD L. CORNELL.

Falgowski: Tendency Toward Conservative Operation for Myoma of the Uterus (Über die konservative Tendenz bei der Operation der Uterusmyom) *Gynäk R wdsch* 9 4 viii 35
By Zentralbl f d ges Gynäk u Geburtsh u d Grenzgeb

Seventy eight cases of myoma were operated upon. All the women recovered and no injuries resulted. Forty-one cases were operated upon abdominally and 37 through the vagina. Of 40 conservative operations 9 were by laparotomy.

In view of the good results with reference to both mortality and morbidity in the conservative operation for myoma the author sees no reason why operation for myoma should be given up in favor of radical roentgen treatment. In spite of many successful results from roentgen treatment Falgowski recommends that myomata be removed by operation as the mortality can be reduced to zero the functional capacity of the sexual organs is less injured than by irradiation.

FROGNER.

Tracy S E: The Treatment of Fibromyomata Uteri Whether Surgery or Radiotherapy *Penn Med J* 19 5 xviii 353
By Surg Gynec. & Obst.

The author discusses the question as to whether fibromyomata uteri are best treated by operation or by radiotherapy. The literature is reviewed and some interesting deductions made from former statistical studies. He quotes from a series of 3561 cases operated upon and collected about six years ago wherein 189 cases 33.38 per cent showed degeneration and changes in the tumor and uterus or in the tubes ovaries or broad ligaments of such nature as to preclude cure by X ray treatment. Malignancy was present in 4 per cent of the cases. In Tracy's own series of 79 cases carcinoma occurred 5 times in the corpus and once in the cervix sarcoma once, malignant cyst of the ovary with secondary involvement of the uterus once a total of 8 or 10 per cent.

In view of the statements by some roentgenologists that the X rays should be used in the treatment of fibromyomata uteri only in women past the age of 40 the author calls attention to his collection of 4 cases published in 1908 wherein it is shown that 74 or 64.9 per cent occurred after the age of 40.

Of Tracy's 87 cases there were two deaths. He believes that the mortality among skilled surgeons is between two and three per cent. He is decidedly of the opinion that X ray treatment at best is but palliative and quotes Rovsing as stating the belief that radium promotes instead of checks cancer. Radiotherapy seems to be equally limited in value.

Roentgenotherapy should be limited to the treatment of these tumors as follows: (1) in a patient whose general health is so much below par from any cause that she could not withstand the shock of an operation; (2) in cases of marked anemia to control bleeding until the patient is sufficiently restored to health to undergo an operation; (3) in a patient who continues to bleed after a myomectomy the specimen removed showing no malignancy.

Early surgical intervention is the only rational treatment for these tumors which produce symptoms except as stated above. C. E. CLIBERTSON.

Novak E.: The Atropin Treatment of Dysmenorrhea *J Am M A* 9 5 ix 20
By Surg Gynec. & Obst.

The use of atropin in the treatment of spasmodic dysmenorrhea is based on the fact that atropin diminishes the irritability of the autonomic nerve endings in the uterus. In 1906 Drekhahn reported remarkable results from the injection of a solution

Hutchins H T A Few Notes on th Treatment of
Anteposed Uteri *Best n M & S J* 19 5
cixu 18 B) S rg Gynec & Obst

For many years an anteposed fundus has been regarded as the normal position of the uterus and a uterus found in this position has been thought in capable of producing pelvic symptoms especially those of low sacral backache pelvic drag and pelvic congestion That the classical symptoms of retro position of the fundus not only can be but frequently are caused by a uterus in ante position the author believes to be true

The anteposed uterus has received but little attention from a symptomatic standpoint The author's attention was called to this fact by the appearance of many patients in his clinic complaining of low sacral backache and feelings of lack of low abdominal support pelvic drag etc in whom on examination the fundus was found to be ante posed At first he was at a loss to explain these symptoms which occurred as frequently in women who had not borne children as in those who had Study soon showed that the anteposed uterus was capable of as wide excursions from the normal as the retroposed So many cases appeared with retroposed fundus who had no symptoms of backache and pelvic drag that the position of the fundus was disregarded entirely in making the diagnosis Attention was confined to the relative position of the cervix only in relation to the pelvic frame It was then found that the anteposed uteri did not occupy a fixed position in relation to the pelvis but they were found to be in varying degrees of ascensus and descensus according to the stability of the cervical supports Some were found to be held snugly up to the symphysis with the bladder and anterior vaginal wall well supported while others were found to have dropped back toward the hollow of the sacrum while still maintaining their anteposed positions It was possible by properly placed tampons which forced the uterus as a whole well upward relieving the drag on the cervical supports to relieve the patient of all her symptoms

Opening the abdomen by a generous incision the following conditions were noted In cases where the uterus as a whole is well held up in the pelvis by its cervical supports whether the fundus is in ante or retro position there will be (1) no fullness congestion or dilatation of the ovarian and anastomosing veins as they run through the infundibulopelvic and broad ligaments (2) there will be present no drag on the parietal peritoneum covering the lateral walls of the pelvis especially that part covering the infundibulopelvic ligament (3) there will be no tension either the round or uterosacral ligaments which in turn are covered by parietal peritoneum (4) there will be no descent of the bladder or engorgement of the vesicle veins

Quite a different picture is presented in that group of cases in which the cervical supports have given way and the uterus as a whole has descended

into the bottom of the pelvis still without regard as to whether the fundus is anteposed or retroverted In this group of cases there is seen on inspection (1) The ovarian and anastomosing veins full congested and dilated forming a so called varicocele of greater or less intensity This fullness and distention extends throughout the pelvic portion of these veins but it will be noticed ends abruptly as the veins cross the posterior pelvic brim from which point upward they are normal in size (2) The infundibulopelvic ligament and parietal peritoneum are put decidedly on the stretch the chief drag coming from the posterior part of the pelvis at or near the attachments over the sacrospinous joint (3) The round and uterosacral ligament share in this drag (4) The bladder has gone down with the descent of the cervix and the vesical veins have shared the general pelvic engorgement

The observations made at the time of operation and the results that have been obtained by operation have led to the conclusion that sacral pain and backache may be caused by a uterus in descensus regardless of the position of the fundus provided that by this descent the pull is transmitted to the parietal peritoneum covering the ovarian vessels forming the so called infundibulopelvic ligament and that with this pull there is present a stasis in the ovarian and anastomosing veins This possibility should be borne in mind when examining a patient whether the fundus is forward or not and the amount of the descensus noted A moment taken at the time of operation to inspect structures *in situ* is well spent and may lead to a more beneficial operative procedure than by following an accustomed routine The effect of a suspension of the uterus should be noted as far as possible before the method of performing that suspension is determined upon

EDWARD L CORNELL

Noble G H *Intra Abdominal Dynamics and the Mechanical Principles Involved in the Causes of Backward and Downward Displacements of the Uterus.* *Surg Gynec & Obst* 9 5 45
By Surg Gynec & Obst

The author exhibits his original work and takes up this subject from a new viewpoint He begins with intra abdominal dynamics having arrived at a working basis by measuring intra abdominal pressure in the active passive normal and abnormal states By the use of an apparatus he designed for the purpose he represents the uterine ligaments as sustaining 25 per cent of abdominal strain and he describes the transmission of the excess to the side walls and floor of the pelvis He deals carefully with the anatomy of the pelvic ligaments and fascia and compares their action and functions in varying circumstances

Attention is called to the fact that the four pairs of muscular ligaments are made up of unstriated muscular fibers—muscular prolongations from the uterine muscularis that they behave not unlike the uterus in varying circumstances they become

Of all surgical procedures recommended for this condition vaginal hysterectomy is probably most satisfactory unless the patient is early in the child bearing period when a more conservative procedure may be considered. The author reports two cases of his own one acute and one of a few months duration.

The first case the patient a thin delicate woman aged 23 had had a tedious labor with her first child followed by forceps extraction. The placenta was delivered by the Credé method with copious hemorrhage and inversion immediately following which was reduced at once by taxis. Delivery six years later was perfectly normal with no recurrence of inversion. The second case was a woman age 15 whose first labor was very long the delivery being finally accomplished without forceps. The placenta was delivered with a one half hour and a vaginal tumor larger than a goose egg was noticed immediately. Hemorrhage was slight for two months followed by one or two months excessive flow. The patient became greatly exsanguinated and a vaginal excision was done near the constricted portion leaving a one and one half inch stump. Recovery was uneventful. (D. HOLM)

Carnelli R. Treatment of Prolapse of the Uterus by the Schauta Wertheim Operation. (Sulla cura del prolasso dell'utero coll'operazione di Schauta Wertheim). *G. ecologia* 9 4 737
By Zentralbl f d ges Gynäk u Geburt h s d Grenz g b

The author gives a detailed discussion of the literature on the treatment of prolapse a description of the Schauta Wertheim operation and a table showing the result of 4 Schauta Wertheim operations performed at Solaris clinic. The post operative course was always good. Lymphorrhea often ischuria dysuria and pollakiuria followed the operation. The patients were catheterized as a matter of routine and often given enemata. They remained in bed a month. No vaginal irrigations were given the vagina being merely dry sponged.

Among the 6 cases operated upon from 1900 to 1911 there were no recurrences among the 3 in 1912 there was one recurrence. In the case in which there was total prolapse of the uterus and vagina colpoperineorrhaphy was not performed. Among the 5 cases operated upon in 1913 there were no recurrences. One of these patients who was not sterilized had an abortion three months later. The pregnancy was accompanied by pain and ischuria there was no displacement of the uterus.

In operating for prolapse it is preferable that the operator should have a great deal of experience in the method chosen. Mestrov.

Duckering F W. Placental Surgery in Prolapsed. *British Medical Journal* 9 5 15
By Surg G3 & Obst

The author reports twenty five cases of prolapsed placenta which were operated on solely by the

vaginal route. The operative procedure was as follows. The cervix was dilated and the uterus curetted a circular incision was made about the cervix the bladder and rectum were pulled back. Then one to two inches of the cervix was amputated after the uterine vessels had been tied off in women beyond the child bearing age. For the cystocele the author has recently used a central flap operation with good results and for the perineum the usual Emmet operation.

The results although showing some few recurrences are surprisingly good in view of the fact that no abdominal operation was performed.

DOUGLAS MACCUBBER

Krius, E. Anesthetization of the Uterus (Zur Anästhesie des Uterus). *Monatsschrift für Geburtshilfe und Gynäkologie* 9 4 121 55
By Zentralbl f d ges Gynäk u Geburt h s d Grenz g b

The author uses novocaine-suprarenin with syrupus simplex in the proportions of 100 gr syrupus, 5 gr novocaine and 0.15 gr suprarenin (Hochst). After boiling the mixture he applies it with sterile Hagar's dilators.

The sugar coated tablets are dipped in lukewarm water before being applied. Each tablet is left in the cervix until the coating is melted after which anesthesia takes place. The method was successful in 24 cases. Each.

Lieb G C. The Pharmacology and Physiology of the Fetus and Human Uterus. *American Journal of Obstetrics and Gynecology* 9 5 121 209
By Surg Gynec & Obst.

The author reviews the recent work along these lines and gives a description of his experiments and the results. As soon as the organs had been excised strips were cut from them and transferred to a large jar containing 500 ccm of oxygenated Ringer's solution. If the tissue was to be studied immediately the temperature was kept at 38° C. If for late tests it was immersed in a solution at 5 to 10 and put in the ice box. For the study of uterine tissue a small segment was excised from the outer muscular layer. The movements of the muscle were recorded by a lever of the first order on the smoked paper of a slowly turning kymograph.

In the non pregnant uterus he found the contractions of the external coat slow but powerful. The movements may be regular in their rhythm or the interval between successive contractions may differ greatly. With the parturient uterus he found that the movements of the external longitudinal coat are of two types. In the first they are simple waves and there is little change in tonus. In the second there are large coarse waves on which are superimposed smaller contractions. In the one case in which the movements of the bluish fibers of the middle coat were recorded the waves were of the first type.

He found that the longitudinal fibers of the fallopian tube have a much faster rate of contraction and in the non pregnant tube the rate varied from

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DOUGLAS MACOMBER

Kraus E. Anæsthetization of the Uterus (Zu Anästhesierung des Uterus) *Mitt. klin. Med. Woch.* 9 4 Jan 15 5
By Zeitschrift für Gynäk. Geburtsh. u. Gynäkol.

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Lieb C. C. The Pharmacology and Physiology of the Excised Human Uterus *Am. J. Obst. & Gynec.* 9 5 Jan 1909
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Carnelli R. Treatment of Prolapse of the Uterus by the Schauta Wertheim Operation (Sulla cura del prolasso dell'utero coll'operazione di Schauta Wertheim) *Ginecol. g.* 9 4 1913
By Zentralblatt für Gynäk. Geburtsh. u. Gynäkol.

The author gives a detailed discussion of the literature on the treatment of prolapse a description of the Schauta Wertheim operation and a table showing the results of 14 Schauta Wertheim operations performed at Solar Clinic. The post operative course was always good. Euphoria, flatulence, dysuria and pollakiuria followed the operation. The patients were catheterized as a matter of routine and often given enemata. They remained in bed a month. No vaginal irrigations were given the vagina being merely dry sponged.

Among the 6 cases operated upon from 1909 to 1912 there was one recurrence. In this case in which there was total prolapse of the uterus a vaginal colpoperineorrhaphy was not performed. Among the 5 cases operated upon in 1913 there were no recurrences. One of the patients who was not sterilized had an abortion three months later. The pregnancy was accompanied by pain and ischuria there was no displacement of the uterus.

In operating for prolapse it is preferable that the operator should have a great deal of experience in the method chosen. M. T. 200

Duckering, F. W. Plastic Surgery in Proctitis (Plastic Surgery in Proctitis) *Br. Med. J.* 9 5 Jan 1909
By Surg. Gynec. & Obst.

The author reports twenty five cases of proctitis which were operated on solely by the

less degeneration occurs and more of the egg bearing part may be saved. Having thus prepared each ovary under saline the sheath was separated from the anterior surface of the left rectus muscle until the outer border of that muscle was quite free. The surface of the incompletely divided left ovary was fixed by a few catgut sutures to the muscle border in such a manner as to form a sandwich with it. The cut surface of the right ovary was placed on the right external abdominal oblique muscle being fixed in position with catgut ligatures about two inches from the middle line where the muscle is situated close under the skin.

The patient made an uninterrupted recovery and left the hospital 22 days after the operation. The child suckled the breast for nearly five months when lactation was discontinued. The first menstruation appeared one month later which was quite painless, lasted only three days and was moderate in amount. She continued to menstruate fairly regularly every month, sometimes not going the full 28 days, sometimes going longer, the duration being three to four days. The flow was always moderate and usually painless but sometimes she knew when she was going to menstruate by tenderness in one or the other grafted ovaries and most often in the subcutaneous one. She thought the ovary swelled a little on these occasions. The tenderness was increased on pressure and immediately relieved when the flow commenced.

Three and a half years after the operation the author examined the patient. The subcutaneous graft could be felt quite easily and on palpating it the patient experienced a sickening sensation. The left ovary which was placed more deeply in the left rectal sheath could not be palpated definitely but a spot could be found which on pressure caused a sickening sensation similar to that on the right side. This sickening sensation and the occasional pain on menstruation are interesting as they seem to indicate the development of nerves in the graft similar to the development of blood vessels which is known to occur.

In general appearance the patient looked exceedingly well the uterus was normal size there were no symptoms of the menopause.

The author also discusses the subject of ovarian transplantation. Low and L. Cox, II.

Lohnberg F Plastic Operation on the Mouth of
th Fallopian Tube (Knausche Lef brunge übe
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 G k 9 5 1 6 B Burg G ne. & Olma

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international literature Lohnberg reviews briefly the cases reported since then and discusses 21 cases operated upon at his own clinic from 1908 to 1913

He thinks the operation is justified in chronic inflammatory conditions of the tube where the wall are not very much damaged also in moderate degree of hydrosalpinx if it is certain that there is no recent inflammatory process also in perisalpingitic processes, that have caused adhesion and occlusion of the tube. Of course it is useless to perform the operation unless the whole length of the tube is penetrable which should be determined beforehand by the introduction of a sound. It is absolutely contra indicated in pyosalpinx. It should be performed only in comparatively young women who have had few children or none at all and who desire to remain capable of conception. The average age of Lohrborg's cases was 26 years none of them were over 30.

Recovery after the operation was uneventful. In two of the cases he was obliged to perform another laparotomy later for retroflexion however not for any condition produced by the previous operation. In the 14 cases that he was able to examine later pregnancy had not occurred once. Pregnancy does not follow a very great percentage of the operations but he thinks the psychic effect of the possibility of renewed conception on the woman who desires children is of sufficient value to compensate for the slightly added danger of extra uterine pregnancy. He thinks this danger exists anyway chiefly in cases where there were previously such changes in the tubes as to favor the occurrence of extra uterine pregnancy.

A. Goss

Amberger: Operative Treatment of Inflammatory Diseases of the Adnexa and Their Relation to Peritonitis (Beitrag zur operativen Behandlung der induzierten Adnexitis und ihren Bezieh. zur Peritonitis) *B. J. f. Gyn. Ch.* 913 CV 272. Dr. Sure, Gießen & Oberh.

The author bases his report upon 53 cases of salpingitis which he operated upon. He comes to the conclusion that in mild cases occurring for the first time or that have not been treated conservative treatment is to be recommended and an operation should be performed only after this has failed. In severe cases or those of sacrosalpinx operation should be performed.

In the author's opinion the fear of operation in the acute stage is not justified. Sixteen of his operations were performed in the acute stage and 11 of them were circumscribed peritonitis; there were no deaths. Of his chronic cases without peritonitis he lost only one very rare case. If appendicitis cannot be definitely excluded, a cholecystectomy is indicated. In these cases the diseased tube must be removed. If peritoneal irritation due to the tube is diagnosed operation can be deferred, but the great danger of further progress of the disease must be borne in mind. If peritonitis already begun operation is indicated. Even if there

pubescent tubercular girl: as generally attributed to a conservative act of nature which is to say the least empirical thinking if not an assumption entirely void of scientific truth. If nature be such a strict conservator of energy to deny womanhood to the tubercular pubescent at the small cost of the catamenia she certainly would not be so neglectful of the ruinous waste in the process of digestion and assimilation in the same subject.

The menarche of the tubercular girl is delayed or wanting not because of an economical anabolism or conservatism of nature but rather from a catabolic toxin being elaborated by the growth of the tuberculous bacilli having a selective action in some unknown way over menstruation probably by the influence of the toxin on the internal secretion of the ovary.

There is a marked contrast in development between the non tubercular pubescent and the tubercular girl who has arrived at or past the expected age of puberty. On the one hand there is a sudden and wonderful transformation both physical and psychical. The pelvis enlarges, the limbs round out and the angularity of the body is replaced by graceful curves. The general carriage and manner of the girl rapidly approach a state wholly feminine. On the other hand her counterpart lags through her teens with a form and physique sorrowfully childish if not neuter in character.

In the menarche also is found the subtle touch of this mischief worker. It is very difficult to separate the gynecologic symptoms arising from tuberculosis during the childbearing period of woman from other conditions dependent upon marital relations such as pregnancy and the consequence incidental thereto: venereal and other infections.

Four cases are briefly reported in which the patients complained of gynecological symptoms. In each the chest was involved with tuberculosis.

In conclusion, the author says that often much more valuable formation concerning gynecologic affections may be found in the thoracic than in the

pelvic cavity and that no gynecologic examination is complete that does not take the lungs into consideration.

EDWARD L. CORNELL

Geiger O. The Phenol Serum Treatment of Pyogenic Processes in Gynecology (Die Phenolserumbehandlung pyogener Prozesse in der Gynäkologie: ihre experimentelle Grundlage). *B. I. Kl. u. I. f. klin. u. s. Immun. (Hefen)* 1914, 245.

By Zentralbl. f. d. ges. Gyn. u. Geburtsh. d. Grenzgeb.

In six cases of pyogenic processes of the genital organs the author tested phenol serum treatment by Lorey's method. With small amounts of phenol there was an inhibitory effect on the bacteria. The phenol forms a loose combination with the albumin bodies of the serum which does not however affect the disinfecting power of the weak low per-cent phenol. Phenol bouillon has a much stronger disinfecting power than phenol serum. The author thinks the reason for this difference lies in the difference in the albumin bodies. Phenol which has an affinity for albumin bodies probably combines more firmly with the highly molecular coagulable albumin substances of the serum than with the peptones of the bouillon. G. Hirsch.

Cadwallader R. Urinary Incontinence in Women. *S. g. Gynec. & Obst.* 1915, 24.

By S. g. Gynec. & Obst.

Cadwallader reports an operative cure of incontinence of urine in the case of a woman upon whom a lithopexy had been done some years before. He made a circular incision around the posterior half of the meatus and from the middle of this another backward for 4 cm. The mucous membrane was lifted up the sphincteric left and the supporting tissues mattressed with four iodized catgut sutures. The redundant membrane was cut away. The operation was essentially that of Howard Kelly though independently thought out. The woman was discharged with a bladder capacity of three ounces and perfect control for two hours.

4 the left tube was ruptured in 29 cases and the right in 2

The temperature of the 62 women varied between 98 and 100 except 2 cases which entered the hospital with a temperature of 101.2 and 104.2 respectively

The blood count in 24 cases varied from 6,400 to 32,000 leukocytes while the reds ranged from 3 to 4 million except in one case in which there were 1,164,000 leukocytes with hemoglobin below 40 per cent. The hemoglobin in most of the cases was around 60 per cent or less—occasionally 80 per cent

The 60 cases in which data was given concerning symptoms show that prodromal signs were absent in only 25 per cent and in 75 per cent they were of considerable duration and distinct enough to have attracted the attention of a physician had one been consulted. Amenorrhoea was absent in something over 10 per cent of the cases. 44 per cent had flowing with pain only 55 per cent complained of abdominal pain. 28 per cent had localized abdominal pain which was invariably in the lower abdomen.

The following conclusions are reached

1 Exactly 50 per cent of the 62 cases studied gave positive evidences of pregnancy

2 Age seems to have no influence upon the occurrence or prognosis of extra uterine pregnancy

3 In over 50 per cent of cases the isthmus was definitely the seat of the implantation of the ovum

4 About 50 per cent of the cases presented evidences of a previous infection of the genital tract or at least an obstetric history suspicious in this respect

5 About 50 per cent either had some actual abnormality or some point in their history which would make one suspicious that a pathological condition might exist

6 Among the 62 cases studied there were 3 tubal abortions but there was nothing upon which to differentiate this condition from ruptured ectopic

7 Rupture of an ectopic gestation is are without premonitory symptoms e.g. amenorrhoea abnormal flow etc

8 The leukocytosis was high in the majority of cases and furnished little aid in differentiating ectop from sepsis

9 The temperature was not elevated to a degree sufficient to suggest inflammatory processes except in those cases already infected at entrance

10 Pelvic examination has given very little aid in the diagnosis of ectopic

11 Not a single case of this series was diagnosed previous to rupture

12 The total mortality of this series is 4.2 per cent. Omitting 3 cases that died of cerebral embolus patent foramen oval and infection before admission the true mortality is 10.3 per cent

13 Intravenous infusion of saline is to be condemned except in very rare instances

14 Transfusion apparently has no advantage over the use of normal salt solution

15 Delayed operation is advisable in some cases immediate operation in others. Each case must be considered on its own merits. Habits of life race and previous history mean considerable in addition to a good physical examination. However for those patients who are in a suitable physical condition amid proper surroundings and in competent hands immediate operation will always remain the proper choice.

HARVEY B. MARTIN

Gardiner J: P. tuitary Extract in Marginal Placenta Prævia. S. G. & O. 10.5 x 84. By Surg. Gynec. & Obst.

In a II para the first symptom of the onset of labor was a sudden gush of blood which flooded the bed. With the patient in the Trendelenburg position an examination revealed blood still oozing from the vulva. The cervix dilated about four fingers was relaxed and without much increase of hemorrhage admitted of further distention. The perineum was also relaxed. One cubic centimeter of pituitary extract and one sixth grain of morphia were administered hypodermically. The head descended checking the hemorrhage and eight minutes after the injection of the pituitary extract the child was born. Ten minutes later the placenta was expelled unassisted. There was no laceration of the cervix and the uterus was contracted to the size of a goose egg.

Fekete Hysterotomy for Central Placenta Prævia (Durch Placent. prævia centralis bed. gte Hyt. otomie). Z. f. l. f. G. 4. 94. x. m. 85. By Zentralbl. f. d. ges. Gyn. k. Geburtsh. u. d. Grenzgeb.

In a case of central placenta prævia at the end of pregnancy but before the beginning of pains, a very severe hemorrhage took place after a vaginal examination so that there was extreme anaemia after a few minutes. The bleeding stopped on tamponing. In order to avoid any further loss of blood classical cesarean section was performed after ligation of the arteries and extirpation of the uterus there was no fever during convalescence.

The striking fact about the case was that during the severe hemorrhage the pulse fell from 70 to 48 and then rose to over 100 after the infusion of salt solution. This bradycardia is caused according to von Neusser's animal experiments either by anaemia of the medulla oblongata and the irritation of the vagus center produced by it or by decrease of the conductive capacity of the heart muscle.

RECHENY

Dick G. F. and G. R. Ba teriologic Examination of the Urine in a Case of Eclampsia. J. l. f. 11. 11. 95. 45. By S. G. Gynec. & Obst.

The patient from whom the urine was obtained was a woman 30 years old who was admitted to the obstetric ward of Cook County Hospital during the night of September 15, 1914. The patient was in convulsions when admitted and a forceps delivery was made during the night. When seen at 10 a.m.

which must be considered in contrast to those which are avoided by it are the following

- 1 Shock in caesarean section is comparatively less severe than in other operations of equal gravity

2 Post-operative haemorrhage is occasionally troublesome particularly when the uterine incision is through the placental site

3 Infection should not be any more frequent than in other abdominal operations

4 Acute dilatation of the stomach occurs in about 9 per cent of cases which is more frequent than in ordinary abdominal operations

5 Acute dilatation of the heart may occur particularly if chronic disease of the heart muscle be present

6 Rupture of the uterus in cases of repeated caesarean sections must be kept in mind

7 Adhesions no doubt frequently occur following caesarean operations and are in direct relation to the vaginal manipulation previous to operation

8 Uterine fistula and hernia

In contradistinction to the complications incident to the caesarean operation the following are avoided by its performance (1) lacerations of the cervix (2) perineal and vaginal tears (3) sacro iliac disturbances (4) injury to the coccyx (5) nervous collapse and (6) infantile mortality and morbidity

HARVEY B MATTHEWS

Davis E P	Cesarean	Section	P	M J
19 5 xvi 29		By S rg	Gynec	& Obst

In discussing caesarean sections Davis regards them from two points of view those operations which have been proved by experience to be right and those which are more recent and still on trial

In the first class belongs the classical caesarean section which is the most frequently performed and applicable to the greatest number of clean cases.

In the second class we have the so called extra peritoneal caesarean section in which the child is delivered through a peritoneal fistula. Experience has shown the author that in the delivery of the child the peritoneal sac is often opened which defeats the purpose of this method of caesarean section. Furthermore the adherents of the extra peritoneal operation claim that in septicaemic cases the fistula may be left open for drainage and that by this means the sacrifice of the septic uterus may be avoided. This method the author states is not sufficiently impressive to warrant its adoption over the classical caesarean section.

In 120 caesarean operations the author only lost one mother—a maternal mortality of 0.76 per cent. There was no foetal mortality. The maternal morbidity consisted of a few cases of tardy closure of the abdominal wound—no hernia developed. There were also 35 foetuses operated upon with 11 maternal deaths—a mortality of 1.1 per cent.

The indications for which operation was done are (1) contracted pelvis (2) excess vesical size (3) threatened uterine rupture (4) pelvic tumors complicating labor (5) rupture of the uterus (6) physio-

logical incompetence of labor (7) separation of normally implanted placenta, (8) placenta prævia (9) septic infection and (10) uterine rupture and eclampsia.

In suspected cases the author does not remove the uterus, but after removal of the contents irrigates its cavity thoroughly and packs it with 10 per cent iodoform gauze brought through the cervix. This gauze is removed in 28 hours.

In infected cases the Porro operation with clamps leaving the stump outside at the lower end of the abdominal incision is the operation of choice.

Davis considers placenta praevia a variety of ectopic gestation and thinks it should receive the same treatment as ectopic gestation within the pelvis. He has performed abdominal caesarean section of the classical type on 18 cases of placenta praevia without a maternal death. Fetal mortality has been 40 per cent. HARVEY B. MATTHEWS

Recusens S The Total Extirpation of the Uterus
to Replace Cesarean Section in Infected
Cases (D totale Gebärmutterabtragung als
Ersatz für den Kaiserschnitt Fällen von Infek-
tion) Zentralblatt Gynäk 94 Nr 11 265
By S rg Gynec & Obst

The author discusses the measures which should be taken to terminate labor in cases of contracted pelvis in which infection has taken place. Cesarean section is generally excluded. Extraperitoneal cesarean section is likewise excluded although Fra k Vent Sellheim Latzko and D derlein advocated its employment some time ago. The contra indications for the latter are likewise the contra indications for the former. The same may be said of pubiotomy as advocated by Bumm or Döderlein. Craniotomy on the living is unscientific and temporizing until the child is dead to perform a craniotomy does not relieve one of responsibility.

The author advocates the removal of the uterus *in situ* before opening it. He says that this can be accomplished within a few minutes the mass then being taken into another room by an assistant and the necessary measures for resuscitation employed. The operation is very much simplified by the employment of the Wertheim forceps. The author employed the procedure successfully in two cases *one in which a cancer of the cervix complicated the pregnancy and one in which an injection with a temperature of 103 to 104 had taken place.* In both cases the children were resuscitated easily and in both the post operative course became normal within 24 hours.

Barfurth W Bacteriological Content of the
Foetus in Abortion and Premature Delivery
(Ube de Keimgehalt on Feten be Abort und
Frühgeburten) B i K l d Inf kt sk u s
Izm latf r 9 4 u 3 7
B; Ze tralbi f d ges Gynak Geburtsh d Grenzgeb

At Schottmüller's clinic during 1913 bacteriological examination of the fetus was made in 100 cases

The fatal febrile abortions were either criminal or treated by active delivery. In the complicated febrile abortions which ended in recovery the course was generally spontaneous.

As a matter of course a complicated abortion should not be treated actively unless active hemorrhage makes it necessary. All the fourteen septicemic cases died. Hemolytic streptococci were most frequently found and in the 20 cases that died of peritonitis they played the chief part. The fear of hemolytic streptococci is justified. Threatening peritonitis can be prevented by the injection of camphorated oil.

The author's own experience with expectant treatment even in uncomplicated febrile abortions was very good but he does not feel justified in pronouncing final judgment in regard to it. He believes that the only way to secure good results in injuries of the uterus is to operate. BANKS

Stevens T. G. Antepartum Hemorrhage. *Cf. J. 1915, xlv, 7. By S. E. Gy. & C. Ob.*

Stevens frankly states at the outset that there are few cases in the whole range of obstetrics which give more reason for anxiety than those cases of serious antepartum hemorrhage particularly concealed accidental hemorrhage.

Antepartum hemorrhage may be (1) accidental or (2) unavoidable. Furthermore there may be external accidental hemorrhage when the blood passes between the membranes and uterine wall and escapes through the cervix or there may be concealed hemorrhage when the blood is retained between the membranes and uterine wall or between the placenta and uterine wall.

The common causes of these accidents are (1) oft repeated pregnancies (2) poor general health in middle aged women and (3) albuminuria which usually clears up after delivery.

The patient usually connects the hemorrhage with some form of trauma but Stevens does not believe that such circumstances bear any direct relationship to the separation of the placenta. On the contrary the initial factor is a small hemorrhage between the placenta and uterine wall slight uterine contractions being thereby set up and gradually more and more blood is squeezed out separating more and more of the placenta.

Furthermore attention is called to the frequency with which hemorrhage into the uterine muscle occurs in these cases of accidental hemorrhage. Post mortem examination shows the uterine muscle to be absolutely infiltrated with blood. In a small quantity of blood from this infiltration may be forced through into the peritoneal cavity or to the parametrial tissues. The placenta of this traumatic hemorrhage has not been satisfactorily given but the author believes it to be a manifestation of a profound toxemia all of which causes eclampsia, albuminuria, and the periculous vomiting of pregnancy. The local condition of the uterus most conducive to the fatal results is

chronic metritis i.e. fibrosis uteri—the hard straight poker like uterus occurring in women who have had several children and who suffer from backache, leucorrhœa and menorrhagia.

The relation of the uterine contractions to the severity of the hemorrhage is of considerable clinical interest. There are always two factors concerned in checking uterine hemorrhage: (1) uterine contractions and (2) coagulation of the blood. Firm uterine contraction and retraction close the blood vessels and stop the hemorrhage. If there are no uterine contractions the torn blood vessels cannot be compressed and therefore profuse hemorrhage results. Concealed accidental hemorrhage is the worst, most dangerous and most fatal accident which can happen to a pregnant woman. This form of hemorrhage is probably due to the fact that the infiltrated uterine muscle becomes paralyzed consequently stimuli which ordinarily would cause contraction of the muscle fail. The stimulation of uterine contractions is of the utmost importance in these cases.

Regarding the treatment of moderate accidental hemorrhage and placenta previa the author advises two definite methods: (1) rupturing the membranes artificially applying a tight abdominal binder and giving pituitary extract; (2) the Dublin plugging method which consists of plugging the vagina and applying a tight band to crowd the uterus down against the vaginal plug. These methods are only applicable when the cervix is not dilated and the membranes are not ruptured and therefore have a very limited applicability. However if the cervix is dilated to the size of half a crown, bipolar version could be taken advantage of thus allowing the uterus to expel the child after perhaps the administration of a small dose of pituitary extract.

In cases of very severe accidental hemorrhage including the concealed variety where the patient is in a desperate condition from loss of blood and from shock it is often difficult to determine what to do. All ordinary methods have either failed or the desperate condition of the patient will not warrant the trial of an uncertain procedure. In such cases the author believes surgery offers the best relief. Surgically there are two possibilities: (1) cesarean section and (2) hysterectomy. The first of these the author believes not the operation of election because it cannot be done without further loss of blood which naturally renders the condition more grave. Hysterectomy he believes is the operation of choice. By removing the uterus without interfering with its contents the patient will lose only a very small quantity of blood—carefully done a negligible amount—and this cannot positively be said of any other operation.

In performing hysterectomy in these desperate cases the following precautions are advised:
1. Give an infusion while doing the operation.
2. Small quantity of general anesthesia combined with local anesthesia of the abdominal wall.
Hysterectomy done with these precautions is very

among 760 cases of abortion and "premature delivery." Only certain cases were selected. All that were changed by secondary decomposition or injured in the course of delivery were rejected.

In 24 of these 100 cases there were positive results. The remainder of the cultures were sterile. It was found that only a certain per cent of fetuses are infected in abortion and that the transference of germs from the mother where they have already manifested themselves by fever only takes place under certain conditions. The placenta plays a very important part in this.

In the fetal circulation Barfurth found chiefly colon bacilli and bacillus emphysematous since it seems to be characteristic of the gas-forming bacilli to be able to produce the injuries necessary to penetration. Goldschmidt.

Gillespie W.: Abortion with Special Reference to Its Medicolegal Aspects. *Lancet* 1913, 95, 1001-1007. By Surg. C. J. G. & Ob. 1.

The author acknowledges that the aspect of this subject are varied and its problems most diverse. The physician is the only competent judge in many cases relating to abortion and therefore the courts by conceding this to the physician and the profession a responsibility which should be recognized by an endeavor to conscientiously weigh the facts that bear upon this subject.

Threatened abortion whether criminal or otherwise should receive the best prophylactic care that is possible before interference is resorted to. Many seemingly inevitable abortions might result in the preservation of the ovum if intelligent means were persistently employed. When there is any doubt as to the proper line of procedure particularly as regard criminal attempts at abortion counsel should be called. The profession as a whole the author believes is too much inclined to protect patients from the results of their own folly and assume risks to their own reputation too lightly.

Among the legitimate indications for abortion the following are given:

1. Organic arterial disease of which three types are mentioned: (a) those in which a failure of compensation preceded the pregnancy; (b) those in which decompensation occurred during the last half of pregnancy; and (c) those in which decompensation occurred postpartum.

2. Gravida disease — if the pregnancy markedly aggravates the condition. Many threatened pregnancies and labor well therefore counsel may be necessary before therapeutic abortion is done.

3. Excessive nausea of pregnancy with or without the supervision of jaundice.

4. Excessive persistent jaundice or albuminuria.

5. Acute yellow atrophy of the liver.

6. Nephritis — acute or chronic — when due to and related to the pregnancy.

7. Tuberculosis — laryngeal, pulmonary, etc.

8. Uterine cancer — this indicates hysterectomy, not abortion.

Furthermore in the author's opinion uterine fibroids can hardly be regarded as an indication for abortion. The test of labor or caesarean section followed by hysterectomy promises a better result for the risks assumed than abortion. The same is true of deformed pelvis for induced premature labor or elective caesarean section offers far better results than abortion.

Medicolegally the following questions are important:

1. How shall the practitioner when called in a case of criminal abortion protect himself from suspicion of complicity in the crime?

2. In case of rape if pregnancy occurs should the woman be expected to assume the same legal attitude toward the child as a mother who has voluntarily taken the chance of being impregnated?

3. Can a therapeutic abortion be done after two physicians have agreed upon its necessity for a condition that would ultimately shorten the mother's life but whose life is not in immediate danger?

4. Should the concurrence of any two physicians be sufficient in law to warrant an abortion or should special knowledge on their part be required?

5. What is the legal status of the man who attempts to produce abortion in a woman not pregnant? Morally the crime lies in the intent but how would the courts view this matter?

6. If an abortionist attempts to end a pregnancy and the growing ovum is within the tube (tubotic) would the courts hold that he had attempted to destroy life and therefore consider him responsible?

7. If in either of the last two cases cited the attempted abortion results in a fatal sepsis upon what charge would the culprit be indicted?

8. Are we as physicians debarred from giving information which might assist in the prevention of conception in cases where the occurrence of pregnancy would be dangerous to the woman?

H. A. B. M. V. N. E.

Hoehne, O.: Fetal Abortion (Zur Frage des fœtalen Abortus). *J. für Geburtsh. u. Gynäk.* 1914, 94, 1-10.

By Zentrall. d. Ges. Gynäk. Geburtsh. u. Gynäk.

The number of normal and premature deliveries in the polyclinic at Kiel has barely doubled but the number of abortions has almost tripled. The percentage of febrile cases has increased from one-sixth to one-third. Severe cases and deaths have become more frequent. Of 137 abortion cases 3.8 per cent were febrile, 4.7 per cent were complicated with puerperal infection. The mortality of the febrile cases was 6 per cent that of the complicated abortions 27.8 per cent. The mortality of the abortions included the febrile ones was 3.60 per cent.

The bacteriological findings were the same in the complicated and fatal cases as in those which ended in recovery, the bacteria found being hemolytic and non-hemolytic streptococci, staphylococci, and colon bacilli.

delivered with a dead child in each case. The deliveries lasted from twelve hours to three days three of them were breech presentations one a shoulder and one a face presentation. At last caesarean section was performed and a living child delivered.

The author believes that these pathological conditions may have been caused by fixation of the isthmus in the earlier operation so that dilatation of the cervix was rendered difficult. Therefore operations that fix the isthmus should be avoided in the child bearing age just as ventrofixation of the body of the uterus is. **KELLER**

McDuffie M W: Painless Childbirth Normal Versus Artificial. A. Am J Obstet 1915, 11: 1. By Surg. Gynec. & Obst.

The author takes the position that as childbearing is essential to the complete physical and mental health of women it ought to be as painless as are the normal functions of heart, stomach, bladder, etc., and that painful childbirth is pathological.

To bring about complete preparation for painless childbirth mothers should teach their daughters how to develop and preserve their physical, mental and moral powers. Deformities of the pelvis, etc., should rule out a consideration of pregnancy. Great care should be exercised as to the hygiene of the woman during gestation and labor. A diet consisting largely of fruits and fruit juices should be followed and the patient should avoid all meats, bread and milk. Overeating too should be carefully guarded against, as well as the use of too highly seasoned foods, stimulating drinks, etc.

Artificial painless childbirth by the twilight sleep method has its place, but is usually necessary only when the physician has neglected those means at his hand which would in themselves render childbirth painless. **C. D. HOLMES**

Hellman A. M: Painless Childbirth in France. A Note on the Use of Tocainalgine. Am J S 1915, 11: 9. By Surg. Gynec. & Obst.

The author reviews briefly the report made by Desaignes in 1904 upon the use of tocainalgine in 112 cases. This drug, which is obtained by the action of living ferments on the chlorhydrate of morphine, exerts its effect upon the nerve centers and pain disappears in from 3 to 10 minutes after administration. Eighty-four of the 112 patients had complete analgesia. Twenty-four required but one dose. Four patients were refractory to the drug. The length of the analgesia varies from 30 minutes to 12 hours. No ill effects were suffered by the mothers. The first stage was usually shortened. The twilight of the babies were born in a dazed condition but easily responded to the usual treatment. One child died during labor while 77 of the babies died at once upon delivery.

Hellman reports three cases of primiparae, two of whom were entirely relieved of their pain, the other was partially relieved. A low rd

symptoms developed but in the opinion of the writer the second stage was prolonged in all the patients. The first dose given was 15 ccm and subsequent dosage varied from 0.5 to 75 ccm administered by injection. **WILLIAM H. CARY**

Junor K. F.: Twilight Sleep in the Home. Med. Rec. 95, 1: 127, 126. By Surg. Gynec. & Obst.

The treatment of labor indicated in this article cannot be properly called sleep but is simply 'painless labor' with consciousness.

Junor feels however that in any procedure the less you interfere with nature the closer you approach to true science. The Freiburg method involves fairly deep narcosis and amnesia. Junor's method involves neither and yet secures painlessness. By the introduction of the sulphate of sparteine, the surest and safest heart tonic and diuretic known to medicine, not only are these powerful cerebral effects avoided but the blood circulation (on the vigor of which especially at such a time the life of both mother and child absolutely depends) is stimulated to such a degree as to secure continuous and permanent vitality in both.

This seems ideal labor. There is one item of treatment which may not seem of much moment but which is of the utmost importance, namely the administration of a suitable dose of castor oil daily for two weeks previous to labor.

The technique is very simple but the drugs must be absolutely pure. Junor uses those put up in glass ampules. The doses may vary according to the effect desired. The treatment should begin when the os is between two and three fingers open. Everything should be done as quietly as possible of course. The first dose given consists of scopolamine 15 ccm, narcophen 1 ccm, sparteine sulphate 1 gr. Watching the effect of these doses on the patient's pulse and condition the size and frequency of future doses can be gauged easily. After that at intervals of three-quarters of an hour to one hour 5 ccm of scopolamine is injected and at intervals of two hours 1 gr. of sparteine sulphate till labor is finished.

Of course all the necessary preparations for the labor as to other organ conditions must be known as the condition of the kidneys, etc.

Scadron S. J.: D. mmeserschlag (Twilight Sleep). I. for 1. W. J. 95, 1: 6. By Surg. Gynec. & Obst.

In a series of over 200 cases at the Jewish Maternity Hospital (New York), the author used the following technique. Treatment begun when the patient is in active labor having regular intermittent uterine contractions at intervals of about five minutes and lasting from one half to one minute with the cervix sufficiently dilated to admit two to three fingers. The initial dose consists of scopolamine hydrobromide 1/33 of a grain with 1 ccm of a 3 per cent solution of narcophen. One hour later a

safe and should be done in about twenty five minutes leaving the patient in no worse condition than at the beginning of the operation

In mild cases of placenta previa there are two methods of procedure viz (1) bipolar version, with slow extraction of the breech and (2) the use of the Champetier de Ribes bag method because it gives the child a better chance

For the very desperate cases hysterectomy as for concealed accidental hemorrhage is the only treatment that will stop the hemorrhage effectually without further loss of blood

HARV & B. MATTHEW

Berecz: Carcinoma and Pregnancy Caesarean Section W. rheim's Operation (Caesum und G. a. iditit Sectio caesare Wertheim'sche Operation) *Zentrbl f Gynäk* 9 4 35 10 804
By Zentrbl f d ges Gynäk u Geburtsh d Grenzgeb

When placenta is complicated by carcinoma the first thing to be considered is the saving of the mother's life in operable cases there the radical operation should be performed without any consideration for the child In inoperable cases an attempt should be made to save the child so it is best to wait until the end of pregnancy and deliver the child either by the natural route or by caesarean section

Berecz reports a case of a para with carcinoma of the cervix who came to the clinic at the end of pregnancy Laparotomy was performed the uterus was exposed and the arteries ligated after slight dissection of the ureters A classical caesarean section was then performed with absolute haemostasis The child was asphyctic but soon recovered A typical Wertheim's radical operation was added The patient was discharged with the child on the twenty second day but after six weeks she came back for preventive radium treatment

RUBINMAN

Bauerleisen A. Pyelitis Gravidarum (Uterus gravidum) *Jahr k f d St Fortid* 9 4 7
By Zentrbl f d ges Gynäk Geburtsh d Grenzgeb

The most frequent causes of pyelitis gravidarum are the colon bacilli more rarely the pyogenic cocci gonococci pneumococci Friedlander capsule bacilli and proteus The mucous membrane of the urinary organs can be affected only if it is injured The bacteria generally do not ascend unless there is urinary stasis before it The causes of dilatation of the ureters are not uniform Pressure on the gravid uterus or pressure of the head on the pelvic inlet may be causes According to Stoeckel the point of stenosis is generally just beneath the middle Schwalbe spindles Other factors that lead to stasis of the urine pregnancy are swelling of the mucosa of the ureter distortion of the bladder and its tortuous course of the ureter In some cases there is no doubt that the infection is haematogenous lymphatic infection is rare Urinary infection in childhood may last till after puberty

but in the majority of cases this explanation is untenable

The symptoms may vary The usual ones are pain on pressure nausea vomiting chills and fever The mild cases with urinary stasis without infection and the moderately severe ones with infection show very favorable prognosis under proper treatment If they are colon infections Infection with pyogenic bacteria is more severe As cystitis is not necessarily present there are no bladder symptoms Catheterization of the ureter is necessary for diagnosis Differential diagnosis is necessary from infectious gastro intestinal diseases pneumonia with acute onset with fever and especially appendicitis Errors may be avoided by palpation of the kidney examination of the urine bladder and ureters In mild cases sometimes catheterization of the ureters performed for diagnostic purposes is followed by recovery A rest in bed and diet complete the cure If cystoscopy shows bacteria and pus in the kidney pelvis the kidney pelvis must be irrigated

Artificial interruption of the pregnancy is not necessary The success of the treatment depends on early diagnosis In cases that have not been seen soon enough nephrotomy or nephrectomy may be necessary

BRENN

LABOR AND ITS COMPLICATIONS

Ranken J F The Management of Occipitoposterior Presentations *N Am J Obst* 1915 23 9 By Srg Cynec & Obst

The occipitoposterior presentation occurs in 25 per cent of the vertex presentations but 90 per cent of these rotate spontaneously to an anterior position Delivery in the posterior position is slow because the expelling forces act at a disadvantage and the perineum is more likely to be ruptured This malposition is due to deficient flexion of the fetal head and to pelvic deformities

The diagnosis of this condition can usually be made by external abdominal examination Under treatment the author suggests alternating the Walcher position with the lateral or lateroprone position the hips being elevated on the side toward which the occiput points This will assist the position to right itself after which the usual methods of procedure for normal delivery may be followed Forceps are to be used in bringing about proper ant rotation only with extreme care

C D Holmes

Cathala V Dystocia Due to Fixation of the Isthmus (Accouchement dystocique dû à une hypertrophie isthmique) *Bull Soc d'obst et d'gynec* Ps 9 4 35 306
By Zentrbl f d ges Gynäk Geburtsh d Grenzgeb

A 38 year-old woman had had one normal delivery and on account of protraction of the uterus a ventrofixation of the isthmus of the uterus was performed After this there were five pathological

deliveries with a dead child in each case. The deliveries lasted from twelve hours to three days three of them were breech presentations one a shoulder and one a face presentation. At last caesarean section was performed and a living child delivered.

The author believes that these pathological conditions may have been caused by fixation of the isthmus in the earlier operation so that dilatation of the cervix was rendered difficult. Therefore operations that fix the isthmus should be avoided in the child bearing age just as ventrofixation of the body of the uterus is.

LELLER

McDuffie M W Painless Childbirth Normal Versus Artificial. *N Am J Obst Gynec* 1915 95

xx

By Surg Gynec & Obst

The author takes the position that as childbearing is essential to the complete physical and mental health of women it ought to be as painless as are the normal functions of heart stomach bladder etc and that painful childbirth is pathological.

To bring about complete preparation for painless childbirth mothers should teach their daughters how to develop and preserve their physical mental and moral powers. Deformities of the pelvis etc should rule out a consideration of pregnancy. Great care should be exercised as to the hygiene of the woman during gestation and labor. A diet consisting largely of fruits and fruit juices should be followed and the patient should avoid all meats bread and milk. Overeating, too, should be carefully guarded against as well as the use of too highly seasoned foods stimulating drinks etc.

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C D HOLLAND

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1915 xxx 9

By Surg Gynec & Obst

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Hellman reports three cases all primiparae two of whom were entirely relieved of their pain the other was partially relieved. No untoward

symptoms developed but in the opinion of the writer the second stage was prolonged in all the patients. The first dose given was 1.5 ccm and subsequent dosage varied from 0.5 to 7.5 ccm administered by injection.

WILLIAM H CARY

Junor K F Twilight Sleep in the Home. *Med Rec* 1915 lxxvii 146

By Surg Gynec & Obst.

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Junor feels however that in any procedure the less you interfere with nature the closer you approach to true science. The Freiburg method involves fairly deep narcosis and amnesia. Junor's method involves neither and yet secures painlessness. By the introduction of the sulphate of sparteine the surest and safest heart tonic and diuretic known to medicine not only are these powerful cerebral effects avoided but the blood circulation (on the vigor of which especially at such a time the life of both mother and child absolutely depends) is stimulated to such a degree as to secure continuous and permanent vitality in both.

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The technique is very simple but the drugs must be absolutely pure. Junor uses those put up in glass ampules. The doses may vary according to the effect desired. The treatment should begin when the os is between two and three fingers open. Everything should be done as quietly as possible of course. The first dose given consists of scopolamine 1.5 ccm narcophine 1 ccm sparteine sulphate 1 gr.

Watching the effect of these doses on the patient's pulse and condition the size and frequency of future doses can be gauged easily. After that at intervals of three quarters of an hour to one hour 1.5 ccm of scopolamine is injected and at intervals of two hours 1 gr of sparteine sulphate till labor is finished.

Of course all the necessary preparations for the labor as to other organic conditions must be known as the condition of the kidneys etc.

Scadron S J Dammerschlaf (Twilight Sleep). *Ist Med J* 1915 xii, 6

By S G Cynec & Obst

In a series of over 200 cases at the Jewish Maternity Hospital (New York) the author used the following technique. Treatment is begun when the patient is in active labor having regular intermittent uterine contractions at intervals of about five minutes and lasting from one half to one minute with the cervix sufficiently dilated to admit two to three fingers. The initial dose consists of scopolamine hydrobromide 1/33 of a grain with 1 ccm of a 3 per cent solution of narcophine. On delivery a

second dose of scopolamine 1/400 of a grain is given Half an hour later the memory test is applied If her memory is clear and she is not under the influence a third dose of 1/400 grain is given If however the patient is in a mental state of amnesia the injection is not given until one hour after the second dose The amount of amnesia present is then used as a guide for repeated injections but the dose of scopolamine is not more than 1/400 of a grain given at intervals of one to one and a half hours Narcophin is not repeated except in rare instances

The author's results were complete amnesia in 83 per cent of cases analgesia in 87 per cent and in 83 per cent the drug had no effect The operative interferences in this series were four medium forceps eighteen low forceps and two breech extractions The number of perineal lacerations was reduced On the part of the child he found that of the series 168 cried spontaneously there were 30 children born with some degree of oligopnoea The average delay for the vigorous cry of the infant was about five minutes There were 4 asphyxiated children 3 died during the first 24 hours and one was stillborn—case of hydramnion The causes in these cases were definitely determined and in no way could be attributed to scopolamine

Scadron states that the only contra-indication against this method is primary inertia and offers the following conclusions

Success means when the memory of the event of labor is lost and depend on the employment of the proper technique and the administration of standard solutions Treatment must begin when the patient is in active labor and should not be employed in short labors Perineal lacerations are diminished and there is less tendency to post partum hemorrhage The puerperium is unaffected and patients convalesce normally The patient must be under the constant care of a trained nurse and the foetal heart frequently observed especially at the end of the second stage The daily systematic exercises and the early rising have a tendency to lessen uterine displacements and greatly aid involution From his observations he thinks the treatment has no untoward effect on the mother or child and advises all medical men interested in obstetrics to give it a fair trial

WILLIAM D PHILLIPS

Smith J T J Scopolamine Amnesia in Labor
Cleveland Med J 9 5 43

By Surg Gynec & Obst

In this series of 35 cases the method of Gauss was followed, except that Smith found a larger initial dose desirable the dose of morphine being 1/6 gr and that of scopolamine 1/100 gr In 5 cases only was the morphine repeated The maximum number of injections was four The author thinks that the second stage of the labor was lengthened as compared with 200 a crage primipara labors the time of the entire labor was increased two hours After labor a few of the children were oligopnoeic for several hours

WILLIAM H CAR

Rongy A J The Use of Scopolamine in Labor
Am Med 9 5 45

By Surg Gynec & Obst

It is certainly most unfortunate that the first comprehensive descriptions in this country of this form of treatment appeared in the lay publications, for not only did it create a strong prejudice against it within the medical profession but it also tended to reflect upon the professional reputations of such eminent scientists as Krönig and Gauss who after most painstaking efforts extending over a period of eight years have succeeded in developing an accurate and well defined technique in the administration of scopolamine morphine in connection with labor

The profession has invariably proved itself equal to all occasions and in this instance it is to be regretted that a number of the foremost obstetricians were unduly hasty in expressing their opinion of this method through rather unusual channels without thorough investigation A legitimate amount of conservatism is absolutely essential on the part of the medical profession so that a proper equilibrium may be obtained and the public be protected against the results of over enthusiasm

Scopolamine is passing through the same process of evolution common to all new methods of treatment It is but natural to expect at this day that a great deal of opposition should arise against it Not only is it condemned by those who think that they have had some experience but even by those who have made no attempt to give this method a fair trial

A study of the literature reveals the fact that there are two distinct groups opposing this method of treatment (1) those who have tried the method occasionally based upon no definite technique with results correspondingly unfavorable (2) those who have given this method a fair trial but have not followed the technique as outlined by Krönig and Gauss

In introducing this treatment the object was not only to study the scientific aspect of it but also to ascertain whether or not the benefits derived by the patient when she had the treatment result successfully were commensurate with the special care and effort so necessary on the part of those in attendance In forming conclusions the opinions of patients especially the more intelligent ones were taken into consideration They nearly all agreed that this form of treatment robs labor of its agonies creates an improved mental attitude and instills with the patient a feeling of confidence so much so that the anxiety of labor is eliminated

At this juncture it would be peculiar to suggest that this form of treatment may have a pre-natal influence upon the child If it be true that pre-natal influence has a direct bearing upon the child the surely an improved mental state on the part of the mother not only most desirable but essential

An argument very often advanced against this treatment is that if labor is to be made painless a

physiological process is interfered with. Many further contend that the mother will lack the tender feelings for her child and that the dignity of motherhood will eventually suffer. It is questionable whether or not the pain accompanying labor is entirely physiological. May it not be one of the relics left by ancestors?

The action of scopolamine is chiefly upon the central nervous system. It quiets the cerebrum and diminishes the perception of pain without apparently influencing the contractility of the uterus. Labor therefore may progress uninterruptedly and the patient may not only fail to recollect these pangs but may even be entirely unaware of them.

In the cases reported by the author the technique of Gauss and Kronig was carefully followed. Six typical cases are reported.

In 22 consecutive cases the following results were obtained: (1) in 183 cases or 83.5 per cent there was complete amnesia with analgesia; (2) in 17 cases or 7.5 per cent there was analgesia without amnesia; (3) in 21 cases or 10 per cent the treatment failed to produce the desired effects.

This treatment renders the pain less intense and apparently of shorter duration for it is only the acme of the pain that the patient is probably conscious of. If closely observed there is no alteration in the actual time of uterine contraction. Apparently the intervals between pain are lengthened but in reality they are about the same. The outward manifestations of pain, such as facial expression and outcry, are markedly diminished.

The average duration of labor in the series cited in primiparae was 8.5 hours, figuring from the time of admission to delivery. The average time that the patient was under the influence of scopolamine was 6.5 hours. The longest period that a patient was kept under was 20 hours, the shortest, 4 hours. The average number of injections was 5, the highest number 18, the lowest 1.

The author believes that the first stage of labor is actually shortened. This is most likely due to the softening effect that narcophan and scopolamine have upon the cervix and lower uterine segment. The second stage, however, is positively delayed. The patient being in a semiconscious state does not utilize her abdominal muscles to any great advantage. No appreciable alteration in the amount of hemorrhage was noticed.

The second stage being somewhat delayed, stretching of the perineum is more gradual and lacerations are therefore less likely to occur.

One hundred and eighty-six babies or 84.5 per cent cried spontaneously. There were 34 cases or 15.5 per cent in which oligopnea was present in varying degrees. The total infant mortality was six deaths or 2.7 per cent. One was a premature infant with spina bifida. The second died from melana neonatorum, the third from abdominal hemorrhage, the fourth from edema of the glottis, the fifth after delivery the fifth was from congenital transposition of the viscera, the direct cause of the

sixth was unknown, however, in this case the mother received an overdose of narcophan.

In this series labor had to be terminated artificially in 23 cases or 10.5 per cent. In two cases of breech presentation delivery was accomplished by bringing down a foot. In 2 cases forceps were used of these 3 were medium and 18 low. One case was a nephritic with marked edema and it was deemed advisable to terminate labor quickly. In 3 cases the use of forceps was indicated because of persistent occiput posterior positions. In one case labor was terminated because of an existing severe cardiac condition. In 3 cases labor was prolonged, the foetal head apparently meeting with some obstruction at the pelvic outlet. In 13 cases labor was terminated on account of a tedious second stage. In the last mentioned cases the perineum was bulging with the caput showing and practically all that was necessary was extension of the head with the forceps blades. The instruments were then removed and labor allowed to terminate spontaneously.

It is interesting to note how little the patients were physically affected by labor. The exhaustion usually accompanying labor in primiparae was entirely eliminated. They usually appeared very restless the following day for instead of having passed the previous day in pain and wakefulness they had gone through labor in a state of semi-consciousness without any undue physical exertion. There were 163 primiparae in the series and this treatment seems best suited to first labors.

The author's conclusions are:

1. Standard solutions are absolutely essential for the success of this treatment.

2. No routine method of treatment should be adopted. Each patient should be individualized. This method does not merely consist of repeated injections of scopolamine at prescribed intervals but the mental state of the patient should be made the guiding point. A subconscious state must be evenly maintained.

3. Facilities should be such that the patient will not be unduly disturbed.

4. A nurse or physician must be in constant attendance.

5. This form of treatment is best carried out in hospital although there is no reason why it cannot be accomplished in well regulated private homes. However if for any reason the physician attend a patient at her home does not see fit to institute treatment early in labor he surely can utilize this method in the second stage and still save the woman a great deal of unnecessary pain. That this may be accomplished was demonstrated in eight cases in which treatment was instituted at the end of the first stage of labor. All of these cases had marked analgesia with complete amnesia.

6. It does not affect the first stage of labor but the second stage is somewhat prolonged.

7. Pain is markedly diminished in all cases, while amnesia is present in the greatest number of patients and labor is not painless as is generally supposed.

secondary phlebitis from a metrophlebitis an extension of the inflammation of a neighboring artery or by contiguity or a primary thrombosis beginning in the veins

Cumston does not believe that a phlebotic thrombosis alone can by any possibility give rise to gangrene because a collateral circulation becomes too quickly established for blood stasis to become absolute. He quotes the statistics of Wormser and of Winterer which show that arterial obliteration is the most frequent. The chief cause of gangrene is infection and probably in all cases a puerperal endometritis opens the way. At the commencement of the process it is impossible to tell whether the case is one of dry or moist gangrene but in a general way it may be assumed that arterial obstruction will result in mummification while moist gangrene is the outcome of venous occlusion.

The general treatment of gangrene consists in sustaining the strength while the pain and elevation of the temperature must be dealt with along symptomatic lines. As soon as a line of demarcation appears no time should be lost in amputating.

C. H. Davis

MISCELLANEOUS

Eben R. Diagnosis of Pregnancy in the Early Stages and Study of the Diagnostic Value of the Skin Reaction in Pregnancy (B it age u r Diagnose d fruhe Schwangerschaftstadien nebst Untersuchungen über den diagnostischen Wert der Cutaneaktion in d. Schwangerschaft) *Pr g med W Anst* 9 4 30

By Zentralbl f d ges (ynak Geburtsh d Grenzgeb

Eben examined 8 cases of early pregnancy 3 to 52 days after the last period. His attention was directed to the symptom of marked ante flexion of the uterus and increase in the diameter. In 11 of 12 cases these symptoms were sufficient for diagnosis. In the remaining cases Hagar's sign was positive in some and doubtful in others. In many cases Abderhalden's reaction was of value. In 10 cases of certain pregnancy Engelhorn and Wint's skin reaction with placental extract was tried and the results were negative.

SCHNEIDER

Wisch H. Diagnosis of Pregnancy by Abderhalden's Method Its Application in Legal Medicine (Le diagnostic de grossesse par la méthode d'Abderhalden son application en médecine légale) *A d d f P* 9 4 xx 497

By Zentr bl f d ges Gynak u Geburtsh d Grenzgeb

The author discusses Abderhalden's serum diagnosis especially for the demonstration of pregnancy. According to Abderhalden the reaction has always been positive in every case but Wisch claims that these results have not been obtained by others.

The author has been able to make the diagnosis in a number of cases from blood spots on the clothing or bed linen even when the spots were of some

times the reaction was positive sixty five days after dryness. This is a very important point in legal medicine.

STADLER

Murray H. L.: Acidosis and the Nitrogen Retention in Pregnancy *B u M J* 19 3 1 151

By S r g Gynec & Obst

The excretion of ammonia in pregnancy is not a reliable basis for the detection of acidosis for it may be normal in acidosis and higher without acidosis.

The estimation of the acetone bodies gives a somewhat better estimation though a rough one. Variations in ammonia value may be due either to a fault in protein metabolism or to a compensatory process to neutralize an acidosis. There are types of acidosis in which the ordinary acetone bodies do not occur. The presence of some acetone in urine is not a proof of acidosis.

EM L SCH 18

Gaetano B. The Influence of Lactation upon Retention of the Thymus After Pregnancy (Der Einfluss des Saugens auf die Retention d. thymus des Thymus nach d. Stillung) *Zentralbl f allg Pathol* 19 4 xx 10

By S r g Gynec & Obst

The author removed small pieces of thymus of rabbits during pregnancy so as to compare the tissue with the thymus after the experiments are completed. These pieces of thymus showed the changes described by Fule consisting of atrophy of the thymus with oedema and sclerosis during pregnancy. The animals were killed later some after a post partum period without lactation some after a period of lactation and some after a lactation free period following lactation. The results showed that after the termination of pregnancy the thymus soon returns to its normal state the changes all disappearing. If lactation follows pregnancy the changes remain until lactation ceases when immediate restitution set in. Lactation therefore is a factor delaying the restitution of the thymus after pregnancy.

L. V. J. N. R.

N. besky O. Choroid Angiomata (Beitrag zur Kenntnis der Choroid Angiome) *Monatsh f Geb n h G* 24 9 4 14

By Zentralbl f d ges (ynak Geburtsh d Grenzgeb

Besides 88 authentic cases of choroid angiomata from the literature the author reports on his own 1 which the diaphanous normal the child was living and weighed 2550 gm. The tumor was no hydronephrosis. The tumor as large as a medium sized orange was 4 cm in diameter and was located between the point of section of the umbilical cord and the edge of the placenta.

The author discusses the various possibilities of the character of the new growth whether it is true tumor or a primary regressive process of degeneration from his own case he thinks it is true tumor a angioma of the choroid. Growth through protruding of the apical part of the

not be demonstrated there was a sharp separation between the tumor and the surrounding chorionic connective tissue. The unusual structure of the tissue was particularly noticeable slightly enlarged it resembled somewhat cross sections of glands such as those of the liver and mammary glands. No where in the tumor was the form of the chorion villi indicated and according to Ruge and Rob Meyer this is an indication of the fact that it was a new growth. At birth there was beginning necrosis of the tumor and part of the placenta lying beneath the tumor was necrotic the other half was hyaline but was otherwise normal in structure. The cause of the necrosis in both cases must have been the same since it was the marginal portions that were most affected.

Nebeek doubts the assumption of a circulatory disturbance such as heart disease nephritis heart failure and arteriosclerosis as causes but thinks they may further development.

The prognosis for the mother is not bad but is very bad for the child. The decisive point is the prognosis for the child is whether the remaining normal placenta is sufficient to carry out the placental function.

GRAEFER

Stoeckel W. Obstetrics (Gebirtsheilkunde) J. J. H. K. f.

By Ze. Traibl f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

The author discusses the decline in the birth rate prevention of pregnancy and abortion. The first is chiefly voluntary and is not due to inability to bear children although many think so. The capacity for reproduction is decreasing. The economic life of women threatens the capacity for motherhood. A great deal of harm is done in extending the indications for artificial abortion.

In the author's opinion the Abderhalden method is so difficult that it can scarcely be used in practice as a means of diagnosis. He asserts that the Abderhalden method enables us to recognize the albumin discharge in the urine during pregnancy as fetal albumin, important because it throws light on the kidney diseases accompanying pregnancy. The practical use of Schottlander's proposed method of diagnosis of the different months of pregnancy from histological examination of the placenta is still doubtful. The indications of Laeke and Lutz are of no value. They point out that mature and full term are not identical.

Of the obstetrical operation heliotomy seems almost to have disappeared. Puerperal propped treatment of flat pelvis by resection of the promontory deserves mention. The results of extraperitoneal caesarean section are good. Infections of tural and ritual serum have no good results in the treatment of eclampsia. The treatment of eclampsia with a combination of chloral enemata and digitalis is probably best. The first is performed with uterine.

Gall P. Indications and Contra Indications for Extract of Hypophysis in Obstetrics (Indikationen und Kontraindikationen der Hypophysenextrakte in der Geburtshilfe). Gynäk. R. n. d. schen 1914 394.

By Ze. Traibl f. d. ges. Gynäk. u. Gebirtsheilkunde u. d. Grenzgeb.

The author reports observations on over 300 cases in which pituitary gland was used.

The indications are as follows: (1) weak pains (in the early months of pregnancy the effect is slight in artificial premature delivery especially with metrorrhysis more prompt) (2) face and breech presentations and placenta previa in combination with metrorrhysis or version (3) contracted pelvis provided that the degree of contraction makes a delivery by the normal route possible (4) retention of the placenta — no effect in placenta accreta (5) caesarean section and (6) atony (in conjunction with the injection of secalin).

Contra indications are extreme contractions of the pelvis transverse positions threatening rupture of the uterus heart and kidney diseases and eclampsia.

SCHAFER

Bucura K. J. Some Questions in Obstetrics and Gynecology Strengthening the Pelvis During Labor; Radium and Röntgen Treatment in Gynecology Treatment of Myomata (Einige Fragen der Geburtshilfe und Gynäkologie. Wehen verstärken, die Beckenmuskulatur stärken, Röntgen Therapie bei Gynäkologie. Behandlung der Myome). Mit. med. Wochenschr. 1914 11.

By Ze. Traibl f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

In using hypophysis preparations for strengthening the contractions in delivery strict account should always be taken of the indications and contra indications. They are indicated during the second stage of labor at the normal end of pregnancy and are contra indicated in sclerosis of the coronary arteries and in nephritis with increased blood pressure acute anemia distention of the lower segment of the uterus and in scars and strictures of the cervix. If these contra indications are present it is better to use quinine every half hour or hourly or better still quinine (Merk) as it uses less pain.

According to the author's experience in radium treatment all malignant tumors of the body and cervix of the uterus and all malignant new growths of the vagina and vulva should be operated upon in combination with radium treatment. The latter alone should be used only in superficial carcinomata of the vulva and vagina and in recurrences.

Röntgen treatment is indicated in gynecology for disease of the uterus which do not demand surgical intervention priapism and carcinoma of the uterine cervix malignant inoperable carcinomata of the uterus and malignant peripheral tumors of the ovary and in all recurrences of carcinoma. It is contra indicated in myomata in young women where malignancy is suspected and in increased upper rapidly growing submucous myomata.

In the treatment of myoma Bucura reaches the following conclusions (1) The patient must be told if she has a myoma that cannot be treated (2) Röntgen treatment should be used only in uncomplicated cases in patients over forty (3) Cases should be operated upon which cannot be influenced by medicinal treatment or by radium therapy

FRANKENSTEIN

Morse A H Bilateral Congenital Caput Ob-
tutum S & Gyne & Obst 9 5 74
By Surg Gynec & Obst

Morse reports a case of foetal dystocia due to extension of the head which was delivered by abdominal caesarean section

At first it was thought that the extremely retracted position was due to brow presentation but since there was no tendency to assume the normal position some other cause was sought for. There was no tumor of the neck nor was the thymus or vertebral column abnormal by exclusion the diagnosis of double wry neck was made

The sternomastoid muscles could be distinctly palpated and the question arose as to whether spasmodic contraction of both these muscles could give rise to such a deformity

The sternomastoids were accordingly dissected out in a stillborn but unmacerated foetus. Traction was then made on the mastoid processes by grasping each muscle at its center with an artery clamp and rotation backward of the head occurred. Heavy silk sutures were then passed from the point of insertion to the point of origin of each muscle approximately in its course. Traction made upon the lower ends of these sutures the cadaver being in a horizontal position swung the head backward even to a greater degree than in the first experiment. The position was the same as that noted clinically and the experiments demonstrated that the extreme extension could be explained by the combined action of the sternomastoid muscles

The condition cleared up spontaneously when the child was four months of age apparently the result of constant massage on the part of the mother

Gunson E. B. Child with Tooth Erupted at Birth
Proc Roy Soc Med 914 111 Sect D: Child
By Surg Gynec & Obst

Gunson reports a case in which the left lower median incisor was erupted at birth in a male infant one of twins born at full term. On the tenth day the tooth which was then loose and attached only by the gum was removed, as its presence interfered with suckling. The right lower median incisor had then also appeared through the gum. The child was well developed and presented no other abnormality. The fellow twin was normal

EDWARD L. COE M.D.

Grulee C. G. Care and Feeding of Incubator
Babies. S & Gyne & Obst, 9 4 234
By Surg Gynec & Obst

Grulee reports 8 incubator babies treated at the Presbyterian Hospital Chicago between December 31 1913 and November 15 1914. This included all the premature infants treated by the author at that period at this hospital. Of those treated one died. This was a child delivered by caesarean section, the infant being found free in the abdominal cavity. The incubator temperatures were all favorable none being below 94° F. Weight when first seen less than 3 pounds 1 between 3 and 3 3 between 3 and 4 3 and one weighed 4 3 pounds.

The author emphasizes the necessity of careful attention to these babies which should be directed along two lines (1) temperature of the incubator—high temperature in the incubator is dangerous as well as low temperature (2) the nurse should not handle the child except when necessary. The four hour period for feeding is advised the infant to be fed by gavage. The conclusions are (1) Attention to detail was largely responsible for the survival of seven out of eight premature babies (2) In every case the four hour interval for feeding was strictly observed

(3) In the two cases which were fed artificially undiluted albumin milk was given, to which within a few days was added carbohydrate in the form of a dextrin maltos mixture

GENITO-URINARY SURGERY

KIDNEY AND URETER

Crowe S J and Wislocki G B Experimental Study of the Suprarenal Glands (Experimentelle Untersuchungen an Mäusen) *Bull. M. Ch.* 1914 c 8

By Surg. Gynec. & Obst.

The authors describe a series of 31 experiments on dogs for the purpose of examining the function of the suprarenal glands and supplement the report of their experimental work by giving tables showing the results of the operation.

They come to the following conclusions:

1. In the dog the suprarenal gland is necessary to life and it is probably the cortex and not the medulla that is the essential part.

2. After partial extirpation of the suprarenals the part left shows hypertrophic changes. The increase is in the cortex chiefly in the *zona fasciculata*. The medulla does not show any compensatory hypertrophy.

3. In some cases chronic infection of an animal having suprarenal insufficiency produces local necrosis without hemorrhage in the *zona fasciculata* of the cortex of the remaining part of the suprarenal. There was no hemorrhage or destruction of the cells of the medulla in any of the cases as a result of an acute or chronic infection.

4. After almost complete removal of both suprarenals the animals often showed general convulsions, subnormal temperature and other symptoms of acute suprarenal insufficiency. In some cases the animals recovered after these symptoms and developed normally in growth and sexual function. The temperament did not change, they increased in weight but not to an abnormal degree. There was no polyuria.

5. There was no permanent rise or fall of carbohydrate metabolism as a result of suprarenal insufficiency.

6. Temporary glycosuria followed the operation whether it was on the right or left side.

7. Autoplastic transplantation may take but it has no functional value. If a piece of suprarenal consisting of marrow and cortex is transplanted the cells of the cortex may persist while those of the medulla are absorbed.

8. There seems to be a relation between the suprarenals and the lymphatic system. On autopsy the most striking finding in an animal with suprarenal insufficiency of long duration was the enlargement of the mesenteric and retroperitoneal lymphatic glands and the solitary follicles in the intestinal wall. Frequently there was hyperplasia of the thymus. Further experiments are to be made on this point.

A. Goss

Simon W V. Movable Kidney (Bilateral) Kenntnis und Behandlung der Wundere Züchter f. Urol. 1914 vii 609

By Surg. Gynec. & Obst.

Case histories are given of the 48 cases on which this article is based. Eight of the patients were men, a rather high percentage compared with most statistics.

Simon does not believe that childbirth has any particular influence in the etiology; he is inclined to think that it is a congenital condition. In 25 of the cases nephropexy was performed and the results were not particularly better than in the cases treated conservatively, though it must be taken into consideration that the cases operated upon were the most severe ones. Many of the patients have to wear a binder after the operation or the painful symptoms recur.

In a great many cases the diagnosis is not certain; that is, it is not certain whether the symptoms described are really due to the movable kidney. Operation should be undertaken only when all other methods of treatment such as bandages, diet, etc., have failed and when gynecological conditions, appendicitis and other diseases can be absolutely excluded as the cause of the symptoms. Nephropexy should not be performed in patients with hysteria or neurasthenia.

A. Goss

Thompson G S. A New Operation for Movable Kidney. *Med. J. Aust.* 1915 68

By Surg. Gynec. & Obst.

The method advocated is unique. From a mechanical point of view it seems logical, but somewhat illogical from a physiological point of view, so much so that time alone will prove the correctness of either view.

Practically, the kidney is surrounded by a net similar to one worn by women over their hair but made either of chromicized catgut or of floss silk. The kidney being exposed in the natural way, the net is placed over the same as over a woman's head, the pelvis and ureter being free as is the person's face. The advantage claimed for the operation is that the kidney remains in position and is yet permitted a certain amount of normal mobility which is not given with other forms of fixation. Provided the technique recommended to prevent the net slipping is observed. The contra-indication is the possibility of the presence of the netting proving the formation of a fibrous capsule making an inelastic covering which will interfere with the normal expansion and contraction of the kidney with increased or lessened circulatory activity.

The author reports one case operated upon in 1909 which is still quite well and free from all symptoms but he admits that his own experience and that of others is not sufficient to make perminent deductions as to the efficiency and practicability of the operation. C S PETTAKI

Barber W H and Draper J W. Renal Infection: a Further Experimental Study of Its Relation to Impaired Ureteric Function. *J Am Med Ass* 1913 1: 20. By Surg Cy ec & Obst

In the discussion of this very interesting subject the authors consider the physiology, embryology, and anatomy of the ureter. The experimental procedures which they instituted to determine the local factors covering the infection were those (1) concerning the ureterovesical valves (2) and peristalsis of the ureter.

The conclusion reached by the authors are (1) Given an infected bladder and making due allowance for systemic and local resistance the ureterovesical valves can be cut without resulting renal infection—duration of life in lesion (2) If the ureter is circumcised to cut not through the vesical mucosa the kidney remains normal—duration of life indefinite (3) Ureteral trauma resulting in greater or lesser degrees of impairment of function is indicated by prostatic paralysis resulting in 75 per cent of cases in hydropneumothorax, which in the early stages were not infected a mechanically changed kidney which might or might not be infected later—average duration of life 30.33 days (4) If the valves were cut and the ureters were paralyzed hydropneumothorax did not occur but the kidneys underwent a primary infective change in 50 per cent of cases—average duration of life 13.57 days. I S KOLL

MacGowan G. Hematogenous Kidney Infections. *J Am Med Ass* 1913 1: 26. By Surg Cy ec & Obst

MacGowan claims as an etiological factor in the production of hematogenous infections of the kidney that we must necessarily have the presence of pus-producing organisms in the blood and a lowered local resistance; one kidney. An infection of the kidney or bladder may be esteemed as haemic in its origin when no evidence can be elicited that at any time an instrument has been introduced into the bladder or that a communication has been established between the intestine and the pelvis of the kidney.

The microorganisms which have been known to cause haemic infections of the kidney or urinary tract are in the order of their frequency: colon bacilli, tubercle bacilli, staphylococcus aureus, streptococcus gonococcus, proteus, typhoid bacilli, paratyphoid bacilli, and pneumococci. An account of the diagnosis followed and the treatment of each kind and viral type of infection is taken up separately. I S KOLL

Proctor J M. Sarcoma of Kidney. *St Albans* 1915 14, 36. By S R Gynec & Obst.

The author gives the clinical findings and points of diagnosis in a case of sarcoma of the kidney. The patient a boy aged 2 years and 9 months, had a previous history of malaria 6 months before the onset of sarcoma. Four weeks before his death the mother noticed an enlargement in the left side of the abdomen. The father who was a physician, considered this swelling to be due to a large spleen because of a previous attack of malaria. Some gastric disturbance developed which was not relieved by treatment and the tumor enlarged very rapidly. The author was called in consultation and found a very much emaciated and restless child pulse 120 temperature 99 respiration 40. Breathing seemed to be very difficult. A large mass filling the left abdomen and flank and projecting into the left iliac region was felt. This mass was hard and indurated and a distinct depression was found between it and the left costal margin. There seemed to be no movement on respiration. Examination of the urine showed microscopic blood. The blood showed leukocytosis but no plasmodia of malaria. The child had a few sinking spells and his breathing became more and more labored until he was very much cyanosed. An operation was considered but because of the lung symptoms it was not thought advisable. He died four weeks from the date of the discovery of the tumor by the mother.

Proctor based his diagnosis of renal sarcoma on the following points: (1) location (2) rapid growth of the tumor (3) immobility on respiration (4) space between the costal arch and the upper end of the mass (5) microscopic blood (6) station of the colon (7) the tumor and (8) absence of malarial plasmodia.

A laparotomy was made which showed the intestine pushed into the right abdomen and the ascending colon hanging in front of the colon and adherent to it. The spleen was normal in size. No fluid was found in the abdomen. A mass was found as described above and was diagnosed as a tumor of the kidney. Microscopic examination showed it to be a sarcoma. G J THOMAS

Rochet V and Thévenot L. Tuberculosis of Horseshoe Kidney. (Tuberculose d'un rein à double J.) *Lyon* 1914 9, 4. By Surg Gynec & Obst

Horseshoe kidney is an anomaly that occurs frequently enough to make it of considerable importance in pathology. Bitez has found it in 75 autopsies and once in 143 operative cases. Rochet and Thévenot have collected 6 cases from the literature of tuberculosis in a horseshoe kidney. In abstract form they have given and they add a detailed case history of one case of their own. In such cases diagnosis must first be made of renal tuberculosis; they review the various methods of functional examination of the kidneys for this

purpose in the second place the existence of a horse shoe kidney must be established. The ureteral orifices appear at the normal location and there is nothing in the cystoscopic examination to reveal the anomaly. Careful palpation will reveal a median transverse mass with two lateral lobes situated lower down and nearer the median line than the normal kidneys. If the two ureters are catheterized with opaque catheters and collargol injected into the pelvis the ureters and pelvis will be found much nearer the median line than normal.

Fortunately the tuberculosis is generally unilateral and the two lobes function independently so that removal of one lobe has the effect of a total not a partial nephrectomy. The fatal effects of the latter are well known. The functional sufficiency of the remaining lobe must of course be demonstrated. In 7 of the cases resection of one lobe was performed in 5 with complete success.

As to the method of operation median laparotomy is preferable to the lumbar incision because it brings into view the vascular pedicles of the kidney in addition to those for each lobe there is usually a median one for the isthmus made up of two short arteries from the aorta or the mesenteric arteries. It is easy to avoid these in the abdominal operation. The isthmus is sometimes adherent and great care must be exercised in freeing it. If these precautions are taken the operation is not more difficult than an ordinary nephrectomy. In only one case was the operation followed by a urinary fistula.

A Goss

Kidd T. Nephrectomy for kidney Tuberculosis
(Zur Ges. hsp. nkte. derk. ged. phrek-
tori. wege. \ rent. be. k. lose) /i. h. f. U. of
9. 4. 446. lly S. rg. Ly. & Obst.

Nephrectomy is universally acknowledged to be the proper treatment for tuberculosis of the kidney when it can be shown by catheterization of the ureters that the disease is unilateral and that the other kidney has sufficient functional capacity. But in many patients the bladder is so sensitive that cystoscopy and catheterization of the ureter is impossible. And in many cases too the wound becomes infected with tubercle bacilli and a very stubborn and persistent fistula is formed.

To avoid the first difficulty the author does examination of the ureters because if the kidney is infected the ureter is sure to be. If the tuberculous foci are large and extramucosal swell the submucous the ureter is thickened and cannot be palpated through the rectum or vagina. If they are small and only submucous they cannot be palpated but a skilled operator can tell by inspection whether the ureter is infected. When rectal or gynecological examination shows one ureter involved and the other the uninvolved one is indicated by a small incision and if inspection shows it to be free the fistula kidney is immediately removed.

The author has operated upon several men in this way with complete success in which the re-

was no other means of deciding the question. He thinks infection of the wound is due to the fact that most surgeons shell the kidney out of its fatty capsule and leave the capsule in place. He believes the kidney should be removed intact together with the fatty capsule and the fascia.

A Goss

Casper L.: Kidney Operations in Bilateral Kidney Disease (Nierenoperation bei doppelseitiger Nierenerkrankung) Zts. f. U. 1914, 546
By S. rg. Gynec. & Ob. t.

The question of operability of a kidney depends rather more upon its functional capacity than upon its anatomical condition. Casper leaves out of account the phenolphthalein test as he does not think its value has been sufficiently demonstrated. He defines as a kidney with good function one that begins to excrete coloring matter within 5 to 8 minutes after injection of indigo carmin and becomes blue in a short time produces saccharin 18 to 25 minutes after the injection of phloridzin and whose freezing point varies sufficiently on the administration and with removal of fluid.

An insufficient kidney does not produce sugar after the administration of phloridzin does not excrete coloring matter until late and then only becomes green and there is deficient reaction to the administration of fluid. Operation when the second kidney is in this condition is dangerous.

Some authors have reported that sometimes normal kidneys do not excrete sugar after phloridzin. Casper explains their results by a number of factors there are poor qualities of phloridzin on the market that do not cause sugar production too small a dose sometimes given the normal dose being 0.05 gm. polyuria may dilute the urine to such an extent that the reaction is not apparent. Fluid should not be given just before the examination and a dose of morphine may be given to avoid nervous polyuria. Nutrition has an effect on sugar production so food should be taken one to three hours before the examination. Contracted kidney may not show any symptoms for a long time so the negative reaction may be explained by the fact that the kidney is really diseased though it shows no symptoms.

The author believes that if the tests are made with sufficient care and regard to all these facts the normal kidney will always react to phloridzin. He has performed 322 operations in unilateral kidney disease in the series there were 101 with none of them due to defective function of the other kidney. He gives brief case histories of 8 operations in bilateral kidney disease in which the tests showed that the function of the second kidney was sufficient.

7 of these 101 were bilateral kidneys that functioned moderately well are apt to improve after removal of the more seriously diseased kidney because great demand is made on the functional capacity and the toxic influence of the diseased kidney is removed. He states that his judgment was that the functional capacity is not only

Barth of Danzig reports a series of cases with no failures in diagnosis. Histories are also given of 9 cases in which the second kidney was judged in adequate before operation and 8 of these patients died. On the whole the series of cases shows the adequacy of these methods of testing kidney function. A Goss

Smith G G: Separate Renal Functions: Observations as Determined by the Ureteral Catheter and Phenolsulphonephthalein. *J Am Med Ass* 1915 121 225 By Surg. Gynec. & Obst.

The author attests the value of phthalein given intravenously in determining the separate function of the kidneys. He finds leakage about the catheters to be infrequent and inasmuch as this possible error can always be known by catheterizing the bladder it forms an insignificant objection. The appearance time on each side averaged about three minutes and the first fifteen minute output about 15 per cent for each side. A greater output than 15 per cent in the first fifteen minutes on one side indicates a compensatory hypertrophy with a diseased fellow and this increase in work may equal that of two normal kidneys combined or 30 per cent. Smith finds that the test reports the value of each kidney with great faithfulness and agrees with the actual pathologic condition. The passage of the ureteral catheter does not apparently influence either the time of appearance nor the amount of the dye excreted. FRANK HINMAN

Gehrels, F: The Determination of Function and Activity of the Kidney Without Ureteral Catheterization. *Med J A* 1915 121 14 By Surg. Gynec. & Obst.

To ascertain the condition of the presumably healthy kidney in cases in which ureteral catheterization is not feasible (boys under 8 years congenital or acquired strictures contracted and inflamed bladder etc.) Gehrels recommends the following procedure. After taking accurate notes of the history and making a careful routine examination of the patient the estimation of the functional activity of the kidneys is carried out by means of injecting 5 ccm of a 2 per cent phloridzin solution which is followed ten minutes later by an injection of 20 ccm of a 4 per cent indigo carmin solution into the substance of the gluteal muscles. The patient is told to urinate 20, 25, 30 and 35 minutes after the first injection or the urine is drawn off by a catheter. The time of the first appearance of blue coloration and of sugar is noted. Delay of appearance of blue coloration beyond 15 to 20 minutes and of sugar beyond 25 to 30 minutes points to the deterioration of renal function and contraindicates nephrectomy which may be performed with safety in cases with excretion of blue and sugar within normal limits of time indicating that one kidney is capable of performing the necessary work for both organs.

For cases of suspected bilateral renal tuberculosis

in which ureteral catheterization is impossible and where a fairly normal renal capacity is ascertained by the above tests the following method is employed. After a bilateral lumbotomy a small opening is made in the pelvis or ureter of the apparently healthy side and a No. 8 ureteral catheter introduced upward. If the urine collected in this way proves to be free from pus, the other kidney may be removed at once but if a sufficient amount of urine is not obtained within a reasonable space of time the catheter remains *in situ* and a more radical operation is carried out a few days later according to the condition of the urine. In case both kidneys appear to be healthy a bilateral ureterotomy or pyelotomy should be carried out to be followed by a more radical surgical procedure based upon the result of the examination of both renal secretions.

The author condemns the performance of exploratory nephrotomy for suspected tuberculosis the danger of a fistula forming after pyelotomy or ureterotomy is small provided that the ureter is not obstructed. MARTIN KATZOFFER

Gayet G and Beaujeu J de: Value of Pyelography in Diagnosis of Some Urinary Affections Particularly Blivable Kidney (Valeur de la pyélographie pour le diagnostic de quelques affections urinaires et particulier du rein mobile). *Lyon M* 1914 2 13

By Surg. Gynec. & Obst.

Gayet and de Beaujeu review the history of the development of pyelography and are ardent advocates of its use. They discuss the bad effect that some surgeons have had in its use such as pain, fever, nephritic colic and most serious is all penetration of the collargol into the kidney parenchyma. The latter they believe is due to injecting the collargol under too great pressure, they no longer use a syringe but let it flow in under atmospheric pressure without raising the receptacle too high. Since adopting this method they have had none of the above complications. General intoxication from the silver salt which has been reported by a few authors they do not believe occurs.

They give a detailed description of the technique both for injecting the collargol and taking the roentgen picture. Eighteen roentgenograms are given and 17 case histories illustrating the different conditions in which they have made use of the procedure. Thus far they have used it in three conditions: (1) in suppurative pyelonephritis to determine the degree of dilatation and retention and also for the antiseptic action of the collargol which they find is very powerful; (2) in cases of difficult diagnosis of tumor to locate the kidney and find whether the tumor is really one of the kidney and (3) in movable kidney. They have not used it in hydronephrosis except in the slight dilatations accompanying movable kidney though it is generally admitted that this is the indication for *ectopie* for its use.

Movable kidney is one of the most disputed fields in kidney pathology. Many clinicians oppose

operation at all because there are so many cases in which it is neither necessary nor effective. But the fact remains that there are cases that require operation and it is in distinguishing these that pyelography is so valuable. The examination should always be made first in the reclining and then in the standing position in this way the degree of excursion of the kidney can be determined. It will often be found that when the patient stands the kidney sinks down into the pelvis creating hydraulic conditions that make it very difficult for the urine to be discharged these are the cases that demand operation and also the ones where the position of the kidney cannot be determined by palpation because the iliac bone prevents it. Certain positions of the pelvis the calices and the ureters that create unfavorable hydraulic conditions are revealed by pyelography also distensions of the calices and pelvis. These slight degrees of hydronephrosis are frequent and early operation overcomes them. Pyelography not only shows whether operation is necessary but what form of operation is best adapted to the case. ureteropyelostomy may be necessary or simple fixation in the right position may suffice. If a previous nephropexy has fixed the kidney in a poor position pyelography will disclose that fact.

Pyelography should really be regarded as a light operation and should be performed with all the care that would be given to any other operation. When so performed and applied judiciously it will be found to be of the greatest service in urinary surgery.

A Goss

Casper L. Indications and Limitations of Pyelography (Indikationen und Grenzen der Pyelographie) *B i k l W k sch 9 4 h 59*
By S rg Gynec & Obst

A number of cases of death from pyelography have been reported some of which doubtless can justly be attributed to defective technique. Casper recommends that no syringe be used at all but that the collargol be allowed to flow in through a small funnel held at a height of 30 to 60 cm above the body. The flow should be stopped as soon as the patient has a sensation of tension but in spite of all precautions there are cases in which there are very severe symptoms from pyelography much more serious than in any other method of diagnosis. It should therefore be used only after all other diagnostic methods have failed. It is not necessary in movable kidney because this condition can be diagnosed by palpation it is useless and even harmful in kidney tuberculosis in calculus it is useful only in forms such as urates that do not show in the roentgen picture. The Mayos report success in diagnosing hypernephroma by this means but Casper had negative results in five out of seven cases. It may be of value in diagnosing tumors of the kidney but the diagnosis can be made by a less dangerous method namely that of staining kidney function. If one kidney is being compressed by a tumor its functional capacity will be less than that of the sound

side. The method may be indispensable in hydronephrosis and in differentiating kidney stones that do not show in the roentgen picture from nephritis.

Joseph is an ardent advocate of pyelography as a means of diagnosis. He has used it in over 100 cases and 38 roentgenograms illustrate his work. He has only had three cases of colic two of them so slight that the patients were able to go home within an hour. Just as severe symptoms often appear after catheterization of the ureters. The more serious accidents he thinks have been due to lack of skill and experience in using the method.

A Goss

Simon L.: Value and Danger of Pyelography (Beitrage zur Beurteilung des Wertes und der Gefahr der Pyelographie) *B i k l W k sch 9 5 cv 97*
By Su g Gyn & Obst

Simon has performed pyelography in over 100 cases in the past two years. He believes it is the best method of obtaining a clear picture of the size of the kidney pelvis the method of its dilatation, the point of opening of the ureters and the dilatation and course of the ureter. By means of roentgenography and filling the kidney pelvis with collargol cavities which communicate with the kidney pelvis can be recognized. The exact position of the kidney can be determined and all the phases of movable kidney can be demonstrated. Partial dilatations of the ureters and diverticula of the bladder can be shown on the roentgen plate.

Though it must be admitted that diagnosis can be correctly made in many cases by catheterization of the ureters and cystoscopy without the aid of pyelography for example in dilatation of the kidney pelvis yet some diagnoses cannot be made without pyelography as in the abnormal insertion of the ureter. Though Simon admits that it should be possible to diagnose movable kidney without pyelography yet he believes the knowledge of the dilatation of the pelvis given by pyelography indicates the best treatment.

He believes that the urologists who hold that pyelography does not give any better results than less dangerous methods are mistaken. It yields too much he thinks, both as to diagnosis and indications for treatment to be given up. But it has its contra indications and should not be used indiscriminately. It should not be used when the kidney pelvis is not enlarged. Voller has shown that it is pyelography of the normal kidney pelvis that causes the fever and pain that have been attributed to the method. It is contra indicated where there is any suspicion of a lesion of the kidney pelvis or ureter by the urethral catheter.

Besides careful technique in catheterizing the ureter the capacity of the kidney pelvis should previously be measured. This is done by measuring the residual urine and then washing out the kidney pelvis with physiological salt solution or weak boric acid solution which is removed slowly with a syringe. The patient is requested to make it known if he feels the slightest pain. The fluid is examined for

Both conditions were diagnosed by cystoscopy previous to operation.

The papilloma was treated by excision a rather striking procedure when one considers the ease and simplicity with which papillomata can be removed by treatment with high frequency currents.

In his discussion of primary ulcerations of the bladder the author considers first the so-called chronic ulcer which is generally found in the neighborhood of the trigone second acute perforating ulcer which is most often found at the level of the posterior retropitoneal wall. While very little is known as to the etiology and pathogenesis of these diseased conditions it would seem that trophic disorders and infective or toxic factors are of great importance.

In the author's case the ulcer closely resembled ulcer of the stomach. There was absence of any sign of inflammation or disease of the bladder or neighboring organs of the genito-urinary tract to which the ulcer could have had any relation.

He does not think there was any relationship between the ulcer and the papillomata the presence of both lesions being a coincidence.

In view of the fact that simple ulcer of the bladder is a rare condition microscopic reports of sections made from the ulcer would have been of little interest.

Roberts W O. Hernia of the Urinary Bladder.

Lozelle M. J. 95 XI 60. By Surg. C. E. & O. N.

In the literature of the world only 1,400 cases of hernia of the bladder have been recorded almost always occurring as a complication of an inguinal or femoral hernia. Primary hernia of the bladder is a pathological anomaly. It is more common in the male almost entirely of the inguinal type than in the female where it is encountered just as invariably in the femoral type of hernia. In approximately 350 cases there were 275 inguinal and 50 femoral. The remainder divided among their varieties. An interestingness (from any prolonged or persistent protrusion of the bladder wall) some congenital malformation and a true diverticulum are some of the reasons given for the occurrence of the condition.

There are no characteristic symptoms. Hugh Cheeseman suggests that partial incarceration of a hernial sac after mitotic division of the sac of a desce to urinate upon pressure the hernia is most constant. Only 10 of 102 of his cases have ever had bladder symptoms.

The presence of such bladder hernia is almost never caused by pathologic changes in the practically every case the condition has been recognized until of rupture of the bladder and avoided during the operation. Only 4 of its presence in the other cases have been after injury. The bladder protrudes to the inner side or posteriorly through the navel

sac and is separate from the peritoneal sac. Its pedicle runs downward behind the symphysis. An unusual amount of fat is commonly present with it in the hernial sac. These features the muscular character and size of its pedicle and fluctuation suggest its existence to the operator who can then readily make an accurate diagnosis by inserting a catheter or sound into the bladder.

Roberts reports two cases of strangulated hernia both in men and in the inguinal ring each complicated by bladder hernia. In neither of the cases was the condition recognized before operation.

F. A. H. M.

Barnett G. E. Urethral Stricture Cure Preceded by Suprapubic Cystostomy. L. I. & C.

Rev. 95 XI 69. By Surg. C. E. & O. N.

Either external or internal urethrotomy for tight permeable strictures increases the amount of excretion and necessitates prolonged subsequent dilations. For cases of this type especially if associated with renal dereliction from lack of pressure better results can be obtained by a preliminary suprapubic cystostomy under local anesthesia. Three or four days later a filiform is passed through the stricture into the bladder and fixed in the urethra. A second layer of filiform is added until a No. 12 (F) soft rubber catheter can be passed and tied to a stiff projecting filiform left in situ. The catheter is blocked to prevent the drainage through it lessening the adhesive. Every second or third day a larger catheter is tied in until a No. 27 or 30 is reached. Thereafter the urethra is dilated by sounds or by a Hohmann dilator up to No. 40 which latter size should be employed monthly for a year. An effort is made to keep the urine neutral and the bladder irrigated daily. Hypodermic injections of autogenous vaccines may be employed after renal function is restored to 50 per cent. By the suprapubic method the stricture regains its full length the period in which the catheter is exerting pressure necrosis.

Waters C. A., and Colton J. A. C. A Report of Three Cases of Fibrosclerosis of the Penis Treated by Röntgenization Without Improvement. 52 G.

Oct. 95 XI 4. By Surg. C. E. & O. N.

In a thorough report in let the r nitrogen treatment of three cases of fibrosclerosis of the penis with no appreciable improvement after the most extensive irradiation.

The frequent occurrence of fibrosclerosis with diseases of metabolism chronic rhinitis with increases gout diabetes etc. not only suggests that there is a relation between the two diseases with the risk of metabolic.

The disease arises in the small arteries to medullary from fibrosis of the surrounding small vessel and are entirely without the association of inflammatory element. The first stage occurs as a local proliferation in the tunica

in the embryo (b) the development of what John Hunter designated as the secondary sexual properties of the male namely changes characteristic of the male, but which take place only in parts that are neither essential to life nor generation and which do not take place till toward the age of maturity and perhaps (c) in part the neural states associated with *libido sexualis* and *potencia coeundi*.

Two cases are cited. The first case was an eunuchoid showing signs of hypogonadism and of dyshyphophysism. The patient was markedly effeminate had a smooth satiny skin scanty hair the facies and general attitude being typical of hyperpituitarism. His breasts were large and of the effeminate type. He had bradycardia and slight hypothermia.

The second case was of the dwarfism type marked by unilateral cryptorchidism azoospermia hypergonitism tuberculous polyserositis and general miliary tuberculosis. The chief interest in this case is the histology of the testicles which was as follows:

The tunica was thickened a little and showed a little evidence of chronic inflammation. The seminiferous tubules were uniformly arranged of small size and with greatly thickened basement membranes. They contained only one type of an undifferentiated cell in general of spindle or cubical shape with the long axis pointing toward the lumen. The nuclei were large and vesicular. The protoplasm was filmy. There were no spermatozoa. The basement membrane in places had undergone hyaline degeneration. Again the entire tubule showed a uniform hyaline metamorphosis. There were some corpora amylacea probably representing deposits in degenerated tubules. Some of these showed calcium impregnation.

The striking thing in the sections was the uniform increase in the interstitial cells of the testicle. They were increased relatively and perhaps even absolutely. Many of them showed very distinct fine yellow granules of pigment in their protoplasm. The nuclei stained well. Some of these masses of interstitial cells made up strands and columns as large as the shrivelled tubules. The adrenal cortex was rather thick and showed perhaps a little increase in the width of the middle zone of the cortex. The inner zone of the cortex showed considerable pigment deposit in its cell column perhaps slightly more than normal. The medullary tissue is conspicuous and normal in appearance. The blood vessels are engorged to a considerable extent.

More and more we are forced to realize that the general form and external appearance of the human body depend to a large extent upon the functioning during the early developmental period (and later) of the endocrine glands. Our stature the kinds of faces we have the length of our arm and legs the shape of the pelvis the color and consistency of our integument the quantity and regional location of our subcutaneous fat the amount and distri-

bution of hair on our bodies the tonicity of our muscles the sound of the voice and the size of the larynx the emotions to which our exterior gives expression—all are to a certain extent conditioned by the productivity of our hormonopneumatic glands. We are simultaneously in a sense the beneficiaries and the victims of the chemical correlations of our endocrine organs.

The data we are accumulating regarding these chemical correlations are not only theoretically interesting but are practically very important. More than ever before is the minute examination of the external appearance of the body—the habitus—of significance for the practicing physician who desires to make accurate diagnoses. In this paper the author has paid especial attention to the function of the gonads. It is probably no accident that as one of the best workers in this field has expressed it the organs which are for the preservation of the species and the continuity of life (also) possess a modelling influence upon the individual bearer of life.

\ D LEAFMAN

Reynolds W S. Vaccines in Colon Epididymitis.
Urol & C Rev 19 5 69
By Surg. Gynec. & Obst.

Reynolds reports a case of epididymitis in which pure culture of colon bacillus was found. The general reaction to the condition was marked. There were practically no reactions after injections with autogenous vaccines and the vaccine was apparently of no use in curing the case. The epididymis under expectant treatment finally cleared up although for two months thereafter there were colon bacilli in the urine.

J S EISENSTADT

Squier J B. Drainage of Seminal Vesicles. *N J U J* 19 5 333
By Surg. Gynec. & Obst.

Squier gives a report of 50 consecutive operations upon the seminal vesicles during a period of two years. The method used was that of Fuller with certain modifications by the author. He divides the cases into three classes according to predominating symptoms: (1) urethral discharge and pyuria; (2) perineal pain; (3) arthritic symptoms or other systematic evidence of chronic infection. Naturally certain minor symptoms which are often varied and manifold may be common to all of these classes.

The pathological conditions local and general resulting from vesicular infection are described. In 60 per cent of cases the vesicles are likely to harbor a chronic infection from the tortuosity of their lumen and the presence of diverticula. Mixed infection frequently occurs as shown by bacteriologic examination of smears and cultures of vesicular contents. On this point the author concludes that (1) with the exception of acute suppurative cases the gonococcus is regularly absent; (2) there is an almost constant growth of pyogenic bacteria.

The possibility of mutation of the gonococcus according to the theory of Rosenow and the devel-

conditions are shown also the location of stone whether within the kidney or not is determined.

Pyelography shows the condition of the pelvis the segregated urine the functional power of each kidney and any infection present in either. Both kidneys must be catheterized in order to determine which is affected as the well kidney may be the seat of pain due to compensatory functioning or both kidneys may be affected and only one give symptoms. Likewise the centimeter catheter shows the exact position of stone in the ureter. After locating the stone it may be removed easily by the use of an umbrella probang ureteral catheter which collapses upon entrance but expands upon withdrawal and so pushes the stone before it into the bladder. This operation is in marked contrast to the major operation of cutting down upon the ureter.

The author concludes by emphasizing that to obtain maximum results and the greatest percentage of cures urologic work must be systematized and organized so as to get the highest value from all means of diagnosis.

London J. A. New Visual Lithotrite. *Med. Rec.* 1915 LXVII, 197. By S. R. Gynec. & Ob. t.

The lithotrite is based on two principles (1) its large size 30 French and (2) making the opening in the male blade as small as possible as the mechanical strength of the lithotrite varies in direct proportion to the thickness of the tube.

The male blade is 5.5 inches long tubular in character the bore admitting a cystoscope size 15 French. Upon its upper surface the shaft is strengthened by a bar which terminates at its distal extremity in the male jaw. This is one eighth of an inch high placed at an obtuse angle to the shaft and terminating in a projection which is parallel to the base line and extending through the length of the jaw beyond the body of the jaw.

There is no spur at the base line of the male jaw which permits a most comprehensive visual control of the entire male jaw at all times. In order to obtain the wedge action used in crushing large hard stones the body of the jaw carries alternating triangular notches three on each side. The terminal projection is obliquely to the distal end in order that this also may exert the wedge-like action. At the proximal end of the

shaft of the male blade the bar is thicker and carries a ratchet which is worked by a pinion. The small bar is also attached at this proximal end to serve as a thumb rest. The female blade is composed of a tubular shaft 10.5 inches long a steel cylindrical handle at its proximal end and at its distal end the female jaw.

When the lithotrite is closed it is 16 inches long 30 French in circumference. The opening through the male blade being contiguous to it and in a straight line with the opening at the base of the female jaw permits the irrigation and distention of the bladder by a fluid introduced through the instrument itself without removing it. When only the front part of the jaws are in opposition there is quite a fenestrum between the main bodies of the respective jaws and the cystoscopist can actually see the toothed surfaces of the male jaw in its entirety even with the terminal parts of the jaws touching and the bladder wall may be observed to make sure that it will not be included between the blades. This lateral fenestrum allows the fragments to be discharged laterally while the two perforations in the female jaw afford additional facilities to prevent impaction.

After the lithotrite has been introduced into the bladder the latter is distended with fluid introduced through the channel above described and the cystoscope inserted. In the first position the beak of the lithotrite points upward with its jaws closed while the cystoscope projects beyond the opening in the female blade and explores the bladder. When the stone is located the beak is turned sideways opened over the site of the calculus and the latter is grasped. The cystoscope is slightly withdrawn and the stone crushed at which time the beak is turned sideways or downward. The cystoscope is arranged on a straight stem with a working length of 16 inches. It is 5 French in size. The objective has a focus of 1.5 inches with its axis directed 15 degrees forward from the right angle with a corrected image.

The mechanical features are the large size of the instrument with the smallest feasible bore even for the cystoscope. The visual control of the male jaw is absolute when the front part of the blades are in contact. Among the advantages of the instrument are the simplicity of its construction and the ease with which mechanical power is applied.

HALL & HALLS

The new instrument differs somewhat from the ordinary speculum in form and in the angle of the blades and in addition has a large handle extending at an obtuse angle down toward the patient's chest. With this the lids can be held entirely away from the globe throughout the operation without interference with the manipulation. The authors are using this throughout the entire Smith Indian operation with good results. FABLE B. FOWLER

EAR

Beck J. C.: Diagnosis of Intracranial Complications in Diseases of the Middle Ear and Accessory Sinuses of the Nose. *Ill. M. J.* 1915, xii 37. By S. R. C.ynec & Obst.

The diagnosis of the following intracranial complications are considered: (1) meningitis—serous, localized septic and diffuse septic; (2) sinus thrombosis; and (3) brain abscess.

As to the cardinal symptoms of any intracranial complication the following are mentioned:

1. Pain or headache—very persistent and of intense. The author states that the recognition of this symptom has helped him more than any other in ascertaining intracranial trouble.

2. Nausea and vomiting—quite constant especially early in the disease.

3. General septic appearance—quite manifest.

4. Disturbance of vision due to choked disc.

5. Disturbance of temperature, pulse and respiration.

6. Definite focal symptoms.
7. Results of blood and spinal fluid examination.
8. Radiographic findings.
9. Exploratory operation and treatment.

Serous meningitis gives the following symptoms or signs: Increasing headache at first localized then diffuse; rolling of eyes, especially upward; rise of temperature and increase of pulse and respiration; loss of appetite; nausea; vertigo; tonicities; sluggish irritability and restlessness; the neck is drawn backward; the leg is drawn up; the thigh and the thigh to the abdomen.

The following signs are positive: Babinski's, Brudzinski's, Gordon's, Oppenheim's and Chaddock's. Unconsciousness, fixed pupils are sluggish then finally dilated; choked disc may be present. Spinal puncture shows the fluid to be under pressure and examination of the fluid reveals an increase of fluid.

Sinus thrombosis is usually associated with acute infections of the ear. Chills and fever of the septic type are of most importance. The blood picture shows a high leucocyte count and the polymorphonuclear type in excess; bacteremia. There is a choked disc which is increased by compression of the healthy internal jugular vein. Exploratory exposure of the sinus is of distinct value proving that a sufficient area is uncovered.

Brain abscess is most frequently associated with chronic suppurations of the middle ear and mastoid. The paramount symptom is great pain in the head; next come focal symptoms due either to irritation or paralysis; the cerebrospinal fluid is increased; unequal pupils and choked disc are present. The larger the abscess the slower the pulse and respiration. Projectile vomiting is frequent. Roentgenograms are of uncertain value. Exploratory operation is justifiable.

In conclusion the author quotes from Prof. Neumann as to the differential diagnosis between meningitis, sinus thrombosis and brain abscess.

A patient who has meningitis is one that wishes to be left alone and allowed to sleep although when aroused is not particularly irritable. If he has brain abscess then he is extremely very irritable and difficult to manage. While a patient who has sinus thrombosis when he is free from the chills and fever is very pleasant apparently well.

OTTO M. ROTT

Johnson C. B.: The Ocular Symptoms of Brain Abscess and Sinus Thrombosis of Otitic Origin. *L. J. S. M. J.* 1915, xiv 7.

By C. R. C. & C. O. C.

In the author's opinion the absence of ocular symptoms does not justify the exclusion of intracranial involvement complicating aural disease but when considered in conjunction with other symptoms it is a valuable guide to a timely operation. Choked disc and optic neuritis are the earliest and most important evidences of intracranial involvement. Optic neuritis requires time for its development and may be progressing when ocular signs and symptoms of brain abscess are absent and while its presence does not make diagnosis certain either does the absence of pressure within the cerebral abscess. The high percentage of sinus thrombosis following otitis media.

The author reports the case of a woman aged

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